



PROJECT MANUAL

Gypsy Hill Park Restroom Improvements Staunton, Virginia

Prepared for
City of Staunton

T&L Project No. 16472 June 23, 2023
Issued for Bids February 16, 2024
City of Staunton Bid # B00124



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& LITTON** EST.
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PROJECT MANUAL

Gypsy Hill Park Restroom Improvements Staunton, Virginia

**Prepared For
City of Staunton**

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THOMPSON & LITTON

**726 Auburn Avenue
Radford, Virginia 24141**

T&L Project No. 16472 June 23, 2023

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Gypsy Hill Park Restroom Improvements
Staunton, Virginia

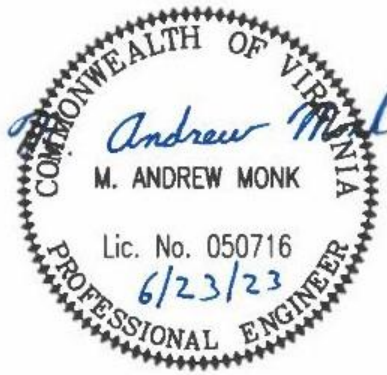
For
City of Staunton

T&L Project No. 16472

SEALS PAGE



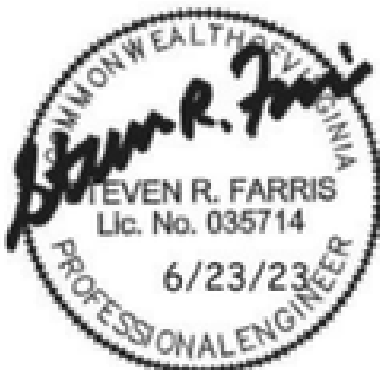
For Architectural & Life Safety
Only



For Civil Engineering Only



For Structural Only



For Plumbing and Mechanical
Only



For Electrical Only

Gypsy Hill Park Restroom Improvements

T&L Project No. 16472

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** Asterisks indicate references made to AIA (American Institute of Architects) documents - latest edition, which are hereby made a part of the Contract Documents. All provisions and requirements contained in reference, after being duly executed, shall be considered as part of the Contract Documents, as if bound herein. Copies of the referenced documents are available for review at the office of the Architect. Contractors shall purchase copies from the American Institute of Architects. The original document shall be provided by the Contractor and will be required for the execution of the "Contract".*

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**Gypsy Hill Park Restroom Improvements
Staunton, Virginia**

**For
City of Staunton**

T&L Project No. 16472

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DRAWING NUMBER:

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SECTION 00 0515 - CITY OF STAUNTON / VPPA PROJECT REQUIREMENTS / FEDERAL REQUIREMENTS

The provisions of this Section 000515 are prescribed by state or other law, and become part of the final agreement of the successful Bidder. By bidding on the Project, each Bidder signifies agreement to these provisions.

PART 1 - GENERAL

1.1 ANTI-DISCRIMINATION:

By submitting proposals, Bidders certify to Owner that they will comply with the provisions of the Federal Civil Rights Act of 1964, as amended, as well as the Virginia Fair Employment Contracting Act of 1975, as amended, when applicable, the Virginians With Disabilities Act, the Americans With Disabilities Act and § 2.2-4311 of the *Virginia Public Procurement Act (VPPA)*.

In every contract over \$10,000 the provisions in 1. and 2. below apply:

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, religion, color, sex, national origin, age, disability, or any other basis prohibited by state law relating to discrimination in employment, except where there is a bona fide occupational qualification reasonably necessary to the normal operation of the contractor. The contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices setting forth the provisions of this nondiscrimination clause.
 - b. The contractor, in all solicitations or advertisements for employees placed by or on behalf of the contractor, will state that such contractor is an equal opportunity employer.
 - c. Notices, advertisements and solicitations placed in accordance with federal law, rule or regulation shall be deemed sufficient for the purpose of meeting these requirements.
2. The contractor will include the provisions of 1. above in every subcontract or purchase order over \$10,000, so that the provisions will be binding upon each subcontractor or vendor.

1.2 ETHICS IN PUBLIC CONTRACTING:

- A. By submitting proposals, Bidders certify that their proposals are made without collusion or fraud and that they have not offered or received any kickbacks or inducements from any other Bidder, supplier, manufacturer or subcontractor in connection with their proposal, and that they have not conferred on any public employee having official responsibility for this procurement

transaction any payment, loan, subscription, advance, deposit of money, services or anything of more than nominal value, present or promised, unless consideration of substantially equal or greater value was exchanged Work covered by Contract Documents.

1.3 IMMIGRATION REFORM AND CONTROL ACT OF 1986:

- A. By entering into a written contract with Owner, the Contractor certifies that the Contractor does not, and shall not during the performance of the contract for goods and services for Owner, knowingly employ an unauthorized alien as defined in the federal Immigration Reform and Control Act of 1986.

1.4 DEBARMENT STATUS:

By participating in this procurement, the Bidder certifies that it is not currently debarred by the Commonwealth of Virginia or Owner from submitting a response for the type of goods and/or services covered by this solicitation. Bidder further certifies that they are not debarred from filling any order or accepting any resulting order, or that it is are an agent of any person or entity that is currently debarred by the Commonwealth of Virginia or Owner.

1.5 RECORDS RETENTION:

If successful, the Bidder hereby agrees to retain all books, records, and other documents relative to this contract for three (3) years after final payment, or until audited by the Owner, whichever is sooner. The Owner, its authorized agents, and/or auditors reserve the right to perform or have performed an audit of the records of the Contractor pertaining to this Project and therefore shall have full access to and the right to examine any of said materials within a reasonable period of time during said period.

1.6 ANTITRUST.

By entering into a contract pursuant to this solicitation, the Bidder conveys, sells, assigns, and transfers to the Owner all rights, title and interest in and to all causes of the action it may now have or hereafter acquire under the antitrust laws of the United States and the Commonwealth of Virginia, relating to the particular goods or services purchased or acquired by the Owner under said contract.

1.7 CHARGES AND PAYMENTS TO SUBCONTRACTORS—GENERAL:

- A. Payment to Subcontractors From Funds that Contractor Receives.

1. A Bidder awarded a contract under this solicitation is hereby obligated:

- (a) To pay the subcontractor(s) within seven (7) days of the Bidder's receipt of payment from Owner for the proportionate share of the payment received for work performed by the subcontractor(s) under the contract; or
 - (b) To notify the Owner and the subcontractor(s), in writing, of the Bidder's intention to withhold payment and the reason.
- 2. The Bidder is obligated to pay the subcontractor(s) interest at the rate of one percent per month (unless otherwise provided under the terms of the contract) on all amounts owed by the Bidder that remain unpaid seven (7) days following receipt of payment from Owner, except for amounts withheld as stated in (A)(1)(b) above. The date of mailing of any payment by U. S. Mail is deemed to be payment to the addressee. These provisions apply to each sub-tier contractor performing under the primary contract. An Bidder's obligation to pay an interest charge to a subcontractor is not an obligation of Owner.

B. Payment to Subcontractors When Contractor Has Not Received Funds

In the event that the Bidder awarded a contract under this solicitation has not received payment from the Owner for work performed by a subcontractor under such contract, such Bidder is liable for the entire amount owed to such subcontractor and to pay such subcontractor within 60 days of the receipt of an invoice following satisfactory completion of the work for which the subcontractor has invoiced. Such Bidder shall not be liable for amounts otherwise reducible due to the subcontractor's noncompliance with the terms of the contract. However, in the event that the Bidder withholds all or a part of the amount invoiced by the subcontractor under the terms of the contract, the contractor shall notify the subcontractor within 50 days of the receipt of such invoice, in writing, of his intention to withhold all or a part of the subcontractor's payment with the reason for nonpayment, specifically identifying the contractual noncompliance, the dollar amount being withheld, and the lower-tier subcontractor responsible for the contractual noncompliance. Payment by the party contracting with the contractor shall not be a condition precedent to payment to any lower-tier subcontractor, regardless of that contractor's receiving payment for amounts owed to that contractor. This paragraph shall not apply to any amounts withheld as retainage under the applicable contract.

C. Tax Identification Numbers.

Individual contractors or subcontractors shall provide their social security numbers. Proprietorships, partnerships, and corporations (or other entities taxed as one of the foregoing under federal law) shall provide their federal employer identification numbers.

1.8 QUALIFICATIONS OF BIDDERS

- A. By submitting a proposal, a Bidder authorizes Owner to make such reasonable investigations with the Bidder and with any third party, as deemed proper and necessary in the sole discretion of the Owner to determine the ability of the Bidder to perform the services under this Bid, and the Bidder also authorizes the third party to provide any information requested by Owner, even if the information is adverse to the Bidder. Owner reserves the right to inspect Bidder's physical facilities and previous work and record prior to award to satisfy questions regarding the Bidder's

capabilities. Owner further reserves the right to reject any proposal if the evidence submitted by, or investigations of, such Bidder fails to satisfy Owner that such Bidder is fully qualified to carry out the obligations of the contract and to provide the procured services in all respects.

1.9 TAXES:

Sales to Owner are exempt from State sales tax. State sales and use tax certificates of exemption, Form ST-12, will be issued upon request, as Owner determines appropriate.

1.10 DRUG-FREE WORKPLACE

- A. During the performance of a contract, the Bidder agrees to: (1) provide a drug-free workplace for the Bidder's employees; (2) post in conspicuous places, available to employees and applicants for employment, a statement notifying employees that the unlawful manufacture, sale, distribution, dispensation, possession, or use of a controlled substance or marijuana is prohibited in the Bidder's workplace and specifying the actions that will be taken against employees for violations of such prohibition; (3) state in all solicitations or advertisements for employees placed by or on behalf of the Bidder that the Bidder maintains a drug-free workplace; and (4) include the provisions of the foregoing clauses in every subcontract or purchase order of over \$10,000, so that the provisions will be binding upon each subcontractor or vendor.
- B. For the purposes of this section, "*drug-free workplace*" means a site for the performance of work done in connection with a specific contract awarded to a contractor, the employees of whom are prohibited from engaging in the unlawful manufacture, sale, distribution, dispensation, possession or use of any controlled substance or marijuana during the performance of the contract.

1.11 AVAILABILITY OF FUNDS:

It is understood and agreed between the parties herein that Owner shall be bound and liable hereunder only to the extent of the funds appropriated by the governing body of the City of Staunton for the purpose of this Contract

1.12 AUTHORIZATION TO CONDUCT BUSINESS IN THE COMMONWEALTH:

A Bidder organized as a stock or nonstock corporation, limited liability company, business trust, or limited partnership or registered as a registered limited liability partnership shall be authorized to transact business in the Commonwealth as a domestic or foreign business entity if so required by Title 13.1 or Title 50 of the *Code of Virginia* or as otherwise required by law. Any business entity described above that enters into a contract with a public body pursuant to

the *Virginia Public Procurement Act* shall not allow its existence to lapse or its certificate of authority or registration to transact business in the Commonwealth, if so required under Title 13.1 or Title 50, to be revoked or cancelled at any time during the term of the contract. Owner may void any contract with a business entity if the business entity fails to remain in compliance with the provisions of this section. Any LLC Bidder's signatory to any document related to this procurement shall be regarded as a declaration under penalty of perjury that the signatory has full authority to execute the document as a legally binding obligation of the LLC and there are no restrictions or conditions to the LLC's contractual commitment or the execution of all documents related thereto.

1.13 PUBLIC INSPECTION OF PROCUREMENT RECORDS:

- A. Proposals submitted shall be subject to public inspection only in accordance with Section 2.2-4342 of the Code of Virginia as follows:
1. Except as provided in this section, all proceedings, records, contracts and other public records relating to procurement transactions shall be open to the inspection of any citizen, or any interested person, firm or corporation, in accordance with the Virginia Freedom of Information Act (§ 2.2-3700 et seq.).
 2. Cost estimates relating to a proposed procurement transaction prepared by or for a public body shall not be open to public inspection.
 3. Any competitive negotiation Bidder, upon request, shall be afforded the opportunity to inspect proposal records within a reasonable time after the evaluation and negotiations of proposals are completed but prior to award, except in the event that the public body decides not to accept any of the proposals and to reopen the contract. Otherwise, proposal records shall be open to public inspection only after award of the contract.
 4. Any inspection of procurement transaction records under this section shall be subject to reasonable restrictions to ensure the security and integrity of the records.
 5. Trade secrets or proprietary information submitted in connection with a procurement transaction or prequalification application consistent with and pursuant to subsection B of § 2.2-4317 shall not be subject to the Virginia Freedom of Information Act (§ 2.2-3700 et seq.); however, the Bidder shall (a) invoke the protections of this section prior to or upon submission of the data or other materials, (b) identify the data or other materials to be protected, and (c) state the reasons why protection is necessary, all to the extent required by law.

1.17 COMPANY WORKSITE BADGE

All Contractors working onsite must have a visible company badge at all times. The badge must include the company name, name of employee and a photo of the employee.

1.18 CERTIFICATION OF INTEREST & RELATIONSHIPS WITH CITY OF STAUNTON, STAUNTON CITY COUNCIL, SCHOOL BOARD AND STAUNTON PUBLIC SCHOOL EMPLOYEES.

The extent that neither Offeror nor any of Offeror's officers, directors, or executive employees maintains a financial or familial or any business relationship with any person acting for, or employed by, City of Staunton or Staunton City Council and SCS or Staunton City School Board members of the Board itself, the offeror shall reveal and fully describe such relationships in writing, which shall be made public. In accordance with this paragraph, the offeror shall execute the certification attached hereto as Attachment A and submit the certification contemporaneously with this executed Contract.

1.19 PROOF OF STATE CORPORATION COMMISSION NUMBER

All prime and subcontractors shall certify that it is authorized to transact business in the Commonwealth of Virginia as a domestic or foreign business entity by providing proof of registration with the VA Corporation Commission.

END OF SECTION 00 0515

**ATTACHMENT A
CERTIFICATION OF INTEREST & RELATIONSHIPS
WITH CITY OF STAUNTON, STAUNTON CITY COUNCIL,
SCHOOL BOARD AND STAUNTON PUBLIC SCHOOL EMPLOYEES**

Contractor hereby certifies that neither Contractor, nor any of Contractor's officers, directors, or executive employees maintain a financial or familial relationship with any person acting for, or employed by, the City of Staunton, Staunton City Council, School Board, or Staunton Public Schools (City Employee).

To the extent that such relationships exist, Contractor shall reveal the relationship below by describing the nature of the relationship and identifying the person with whom such relationship exists.

- ☐ Neither Contractor nor any of its officers, directors, or executive employees maintain a financial or familial relationship with any person acting for, or employed by, the City of Staunton, Staunton City Council, School Board, or Staunton Public Schools.
- ☐ The following individuals currently maintain a **financial** relationship with Contractor.

City Employee's Name: _____

Position with City: _____

Nature of Relationship: _____

- ☐ The following individuals currently maintain a **familial** relationship with Contractor.

City Employee's Name: _____

Position with City: _____

Nature of Relationship: _____

Contractor: _____ Date: _____

By: _____

Name: _____

Title: _____

ADVERTISEMENT FOR BIDS

City of Staunton
116 W. Beverley St., 3rd Floor
Staunton, Virginia 24401

Separate sealed Bids for the Gypsy Hill Park Restroom Improvements for the City of Staunton, which consists of the renovation of two restrooms and the new construction of one restroom facility, will be received by Chad Horvat, Finance Business Manager, at 116 W. Beverley St., 3rd Floor, Staunton, Virginia, 24401, until 2:00 P.M., local prevailing time, on March 22, 2024, and then at said office publicly opened and read aloud.

The Contract Documents may be examined at Thompson & Litton, 726 Auburn Avenue, Radford, VA; the City of Staunton website; and eVA.

A non-mandatory Pre-Bid Conference will be held on February 29, 2024, at 10:00 A.M. All interested parties are requested to meet the Architect at the Pool House restrooms within Gypsy Hill Park at that time.

Withdrawal of bids shall be according to procedure (i) of the Virginia Public Procurement Act and to the Code of Virginia (§ 2.2-4330).

Bids must be accompanied by Bid security as specified in the Instructions to Bidders.

Each Bidder must be licensed as a Class A contractor in the State of Virginia; Bidders are instructed to review the *Code of Virginia*, Title 54.1, Chapter 11, prior to bidding.

The Owner does not discriminate against faith-based organizations in accordance with the *Code of Virginia*, § 2.2-4343.1.

MBE/WBE firms are encouraged to submit Bids.

The Contract(s) shall be awarded to the lowest responsive and responsible Bidder(s).

The Owner reserves the right to reject any and all Bids if it appears in its best interest to do so.

February 16, 2023
Date

Chad Horvat
City of Staunton
By

INSTRUCTIONS TO BIDDERS

1. Defined Terms

- 1.1 Terms used in these Instructions to Bidders which are defined in the General Conditions of the Contract for Construction (AIA A201-2017) have the meanings assigned to them in the General Conditions. Additional terms used in these Instructions to Bidders have the meaning indicated below:
- A. The term "Bidder" means one who submits a Bid directly to Owner, as distinct from a sub-bidder, who submits a Bid to a Bidder.
 - B. The term "Successful Bidder" means the qualified, responsible, and responsive Bidder to whom Owner (on the basis of Owner's evaluation hereinafter provided) makes an award.
 - C. The term "Bidding Documents" includes the Advertisement or Invitation for Bids, Instructions to Bidders, the Bid Form, sample forms, and the proposed Contract Documents (including all Addenda issued prior to receipt of Bids).
 - D. The term "Days" means calendar days.
- 1.2 Terms as used in the *Code of Virginia*, § 2.2-4301.

2. Copies of Bidding Documents

- 2.1 Complete sets of the Bidding Documents are available as stated in the Advertisement or Invitation for Bids.
- 2.2 Complete sets of Bidding Documents shall be used in preparing Bids; neither Owner nor Architect assumes any responsibility for errors or misinterpretations resulting from the use of incomplete sets of Bidding Documents.
- 2.3 Owner and Architect, in making copies of Bidding Documents available on the above terms, do so only for the purpose of obtaining Bids on the Work and do not confer a license or grant for any other use.

3. Qualifications of Bidders

- 3.1 Each Bidder shall submit to the Owner, through the Architect, on the form entitled "Contractor's Qualification Statement" a statement of its qualifications, its experience record in constructing the types of improvements embraced in the Contract, and its organization and equipment available for the Work contemplated. The Owner shall have the right to take such steps as it deems necessary to determine the ability of the Bidder to perform its obligation under the

Contract, and the Bidder shall furnish the Owner all such information and data indicated on the form. The right is reserved to reject any Bid where an investigation of the available evidence or information does not satisfy the Owner that the Bidder is qualified to properly carry out the terms of the Contract.

4. Examination of Contract Documents and Site

- 4.1 Before submitting a Bid, it is each Bidder's responsibility to (a) examine the Contract Documents thoroughly; (b) visit the site to become familiar with local conditions that may in any manner affect cost, progress or performance of the Work; (c) consider Federal, State, and local laws; ordinances; and rules and regulations that may in any manner affect cost, progress or performance of the Work; (d) study and carefully correlate Bidders' observations with the Contract Documents; and (e) notify Architect of all conflicts, errors or discrepancies in the Contract Documents.
- 4.2 The submission of a Bid will constitute an incontrovertible representation by Bidder that it has complied with every requirement of this Article 4; that without exception, the Bid is premised upon performing and furnishing the Work required by the Contract Documents and such means, methods, techniques, sequences, or procedures of construction as may be indicated in or required by the Contract Documents; and that the Contract Documents are sufficient in scope and detail to indicate and convey understanding of all terms and conditions for performance and furnishing of the Work.

5. Interpretations and Addenda

- 5.1 All questions about the meaning or intent of the Contract Documents are to be submitted to the Architect on the Pre-Bid Question Form provided herein. Interpretations and/or clarifications considered necessary by Architect in response to such questions will be issued by Addenda and delivered to all parties recorded by Architect as having received the Bidding Documents. Questions received less than ten (10) days prior to the date for opening of Bids may not be answered. Only questions answered by formal written Addenda will be binding. Oral and other interpretations or clarifications will be without legal effect.
- 5.2 Addenda may also be issued to modify the Bidding Documents as deemed advisable by Owner or Architect.

6. Bid Security

- 6.1 Bid Security shall be made payable to Owner in an amount of five percent (5%) of the Bidder's maximum Bid price and in the form of a certified check or a Bid Bond (on form provided or form supplied by Bidder's Surety).
- 6.2 The Bid Security of the Successful Bidder will be retained until such Bidder has executed the Agreement and furnished the required Contract Security, whereupon it will be returned. If the successful Bidder fails to execute and deliver the Agreement and furnish the required Contract

Security within fifteen (15) days of the Notice of Award, Owner may annul the Notice of Award and the Bid Security of that Bidder will be forfeited. The Bid Security of other Bidders whom Owner believes to have a reasonable chance of receiving the award may be retained by Owner until the earlier of the seventh day after the "effective date of the Agreement" or the thirty-first day after the Bid opening, whereupon Bid Security furnished by such Bidders will be returned. Bid Security with Bids which are not competitive will be returned within seven (7) days after the Bid opening.

7. Contract Time(s)

- 7.1 The number of calendar days within which, or the date by which, the Work is to be substantially completed and ready for final payment. Contract Time(s) are set forth in the Bid Form.

8. Substitute or "Or Equal" Items

- 8.1 The Contract, if awarded, will be on the basis of material and equipment described in the Drawings or specified in the Specifications without consideration of possible substitute or "or equal" items. Whenever it is indicated in the Drawings or specified in the Specifications that a substitute or "or equal" item of material or equipment may be furnished or used by Contractor if acceptable to Architect, application for such acceptance will not be considered by Architect until after the "effective date of the Agreement".

9. Subcontractors, Etc.

- 9.1 In advance of the Notice of Award, the apparent Successful Bidder will, within ten (10) days after the day of the Bid opening, submit to Owner through Architect a list of all Subcontractors and other persons and organizations (including those who are to furnish the principal items of material and equipment) proposed for those portions of the Work as to which such identification is so required. The Architect may additionally request such list be accompanied by an experience statement with pertinent information as to similar projects and other evidence of qualification for each such Subcontractor, person and organization, if requested by Owner. If Owner or Architect, after due investigation, has reasonable objection to any proposed Subcontractor, other person or organization, either may, before giving the Notice of Award, request the apparent Successful Bidder to submit an acceptable substitute without an increase in Bid price. If the apparent Successful Bidder declines to make any such substitution, the contract shall not be awarded to such Bidder. Any Subcontractor, other person or organization so listed and to whom Owner or Architect does not make written objection prior to the giving of the Notice of Award will be deemed acceptable to Owner and Architect.
- 9.2 No Contractor shall be required to employ any Subcontractor, other person, or organization against whom it has reasonable objection.

9.3 In accordance with *Code of Virginia*, § 2.2-4332, all Subcontractors must provide evidence of Workers' Compensation Insurance prior to award of contract by completing the Workers' Compensation Certificate of Coverage.

9.4 In accordance with *Code of Virginia*, Title 54.1, Chapter 11, all Subcontractors must be registered either as a Class A or Class B Contractor with the Virginia Board for Contractors.

10. Bid Form

10.1 The Bid Form is provided herein. One (1) separate unbound copy of the Bid Form to be completed and submitted with the Bid Security and other documents is additionally provided (hard sets only).

10.2 All blanks on the Bid Form must be completed in ink or by typewriter. The Bid price of each item on the form and the Total Bid Price must be stated in both words and numerals; in case of a conflict, words will take precedence.

10.3 Bids by corporations must be executed in the corporate name by the President or a Vice President (or other corporate officer accompanied by evidence of authority to sign) and the corporate seal must be affixed and attested by the Secretary or an Assistant Secretary. The corporate address and state of incorporation shall be shown below the signature.

10.4 Bids by Partnership must be executed in the partnership name and signed by a partner whose title must appear under the signature and the official address of the Partnership must be shown below the signature.

10.5 A Bid by a Limited Liability Company shall be executed in the name of the firm by a member or other authorized person and accompanied by evidence of authority to sign. The state of formation of the firm and the official address of the firm shall be shown.

10.6 All names must be typed or printed below the signature.

10.7 The Bid shall contain an acknowledgment of receipt of all Addenda (the numbers of which shall be filled in on the Bid Form).

10.8 For the purposes of directing telecommunications regarding the Bid, the postal address, email address, and telephone number must be shown.

11. Submission of Bids

11.1 Prior to submitting a Bid, a nonresident Bidder must appoint the Director of the Virginia Department of Professional and Occupational Regulation as the Bidder's statutory agent for service of process pursuant to *Code of Virginia*, Section 54.1-1113.

11.2 Bids shall be submitted at the time and place indicated in the Advertisement or Invitation for Bids and shall be included in an opaque sealed envelope, marked with the Project title and name and address of the Bidder, Bidder's applicable State Contractor License Number and

Classification/Specialty Code Name, and accompanied by the other required documents. If the Bid is sent through the mail or other delivery system, the sealed envelope shall be enclosed in a separate envelope with the notation "BID ENCLOSED" on the face thereof.

- 11.3 Bids shall be addressed to the Owner as indicated on the Bid Form. No Bid submitted by fax or email transmission shall be allowed.

12. Modification and Withdrawal of Bids

- 12.1 Bids may be modified or withdrawn by an appropriate document duly executed (in the manner that a Bid must be executed) and as allowed and delivered to the place where Bids are to be submitted at any time prior to the opening of Bids.
- 12.2 If, in accordance with *Code of Virginia*, § 2.2-4330, B.1, within two (2) business days after the Bid date, any Bidder files a duly signed written notice with Owner and promptly thereafter demonstrates to the reasonable satisfaction of Owner that there was a material and substantial mistake in the preparation of its Bid, that Bidder may withdraw its Bid and the Bid security will be returned. Thereafter, that Bidder will be disqualified from further bidding on the Work.
- 12.3 No Bidder who is permitted to withdraw a Bid shall, for compensation, supply any material or labor to or perform any subcontract or other work agreement for the person or firm to whom the Contract is awarded or otherwise benefit, directly or indirectly, from the performance of the Project for which the withdrawn Bid was submitted.
- 12.4 No Bid may be withdrawn due to error when the result would be the awarding of the Contract on another Bid of the same Bidder or of another Bidder in which the ownership of the withdrawing Bidder is more than five percent (5%).
- 12.5 If a Bid is withdrawn due to error, the lowest remaining Bid shall be deemed to be the low Bid.

13. Opening of Bids

- 13.1 Bids will be opened and (unless obviously nonresponsive) read aloud publicly. An abstract of the amounts of the Base Bids and major alternates (if any) will be made available to Bidders after the opening of Bids. If, however, the Owner chooses not to accept any of the Bids and re-advertises the Contract or re-invites Bidders, no abstract will be made, and Bids submitted will not be available for examination.

14. Bids to Remain Open

- 14.1 All Bids shall remain open for sixty (60) days after the day of the Bid opening, but Owner may, in its sole discretion, release any Bid prior to that date.

15. Award of Contract

- 15.1 Owner reserves the right to reject any and all Bids; to waive any and all informalities not involving price, time, or changes in the Work and to negotiate contract terms with the successful Bidder, and the right to disregard all nonconforming, nonresponsive, or conditional Bids. Also, Owner reserves the right to reject the Bid of any Bidder if Owner believes that it would not be in the best interest of the Project to make an award to that Bidder, whether because the Bid is not responsive, Bidder is unqualified, of doubtful financial ability, or fails to meet any other pertinent standard or criteria established by Owner.
- 15.2 In evaluating Bids, Owner will consider the qualifications of the Bidders, whether or not the Bids comply with the prescribed requirements, and such alternates, unit prices and other data, as may be requested in the Bid Form or prior to the Notice of Award.
- 15.3 Owner may consider the qualifications and experience of Subcontractors, Suppliers, and other persons and organizations proposed for those portions of the Work as to which the identity of Subcontractors, Suppliers, and other persons and organizations must be submitted as provided in the Supplementary Conditions. Owner may also consider the operating costs, maintenance requirements, performance data, and guarantees of major items of materials and equipment proposed for incorporation in the Work when such data is required to be submitted prior to the Notice of Award.
- 15.4 Owner may conduct such investigations as it deems necessary to assist in the evaluation of any Bid and to establish the responsibility, qualifications, and financial ability of the Bidders, proposed Subcontractors, Suppliers, and other persons and organizations to perform and furnish the Work in accordance with the Contract Documents to Owner's satisfaction within the prescribed time.
- 15.5 If the Contract is to be awarded, such award shall be to the responsible Bidder submitting the lowest responsive Bid. Evaluation shall be made on the basis of the Base Bid; Alternates, if any, will be considered by the Owner following Contract award.
- 15.6 If the Contract is to be awarded, Owner will give the Successful Bidder Notice of Award within sixty (60) days after the day of the Bid opening.
- 15.7 Unless cancelled or rejected, the responsive Bid from the successful Bidder shall be accepted as submitted, except that if the Bid from the successful Bidder exceeds available funds, the Owner or designated official may negotiate with the successful Bidder to obtain a contract within available funds. Negotiations will be conducted in accordance with the following procedures:
 - 1. Proposals and Counter Proposals shall be set forth in writing through the Architect.
 - 2. Time limit for negotiations shall be thirty (30) days from the Bid date.

3. The Owner has the right to reject any or all proposals or counter proposals of the Contractor.
- 15.8 In accordance with *Code of Virginia*, § 2.2-4332, all Bidders must provide evidence of Workers Compensation Insurance by submitting a Workers' Compensation Certificate of Coverage with each Bid.
- 16. Contract Security**
 - 16.1 The General Conditions (Articles 11.1.2 and 11.1.3) and the Supplementary Conditions (SC-11) set forth Owner's requirements as to Performance and other Bonds. When the Successful Bidder delivers the executed Agreement to Owner, it shall be accompanied by the required Contract Security.
- 17. Signing of Agreement**
 - 17.1 When Owner gives a Notice of Award to the Successful Bidder, it will be accompanied by at least three (3) unsigned counterparts of the Agreement and all other Contract Documents. Within fifteen (15) days thereafter, the Successful Bidder shall sign and deliver at least three (3) counterparts of the Agreement to Owner with all other Contract Documents attached. Within ten (10) days thereafter, Owner will deliver all fully signed counterparts to Architect who will distribute one each of the executed contracts to the Owner, the Contractor, and the Architect.
- 18. Sales and Use Taxes**
 - 18.1 Applicable State Sales and Use Taxes on materials and equipment to be incorporated in the Work shall be included in the Contract price.
- 19. Retainage**
 - 19.1 In accordance with *Code of Virginia*, § 2.2-4333, a sum equal to five percent (5%) of the Contractor's pay requests shall be held as retainage throughout the entire project until final acceptance by the Owner.
- 20. Anti-Discrimination**
 - 20.1 In accordance with *Code of Virginia*, § 2.2-4311, 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, religion, color, sex or national origin, age, disability, or other basis prohibited by state law relating to discrimination in employment, except where there is a bona fide occupational qualification reasonably necessary to the normal operation of the Contractor. The Contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices setting forth the provisions of this nondiscrimination clause.

- B. The Contractor, in all solicitations or advertisements for employees placed by or on behalf of the Contractor, will state that such Contractor is an equal opportunity employer.
 - C. Notices, advertisements and solicitations placed in accordance with federal law, rule or regulation shall be deemed sufficient for the purpose of meeting the requirements of this section.
- 20.2 The Contractor will include the provisions of the foregoing paragraphs A., B., and C., in every subcontract or purchase order of over \$10,000, so that the provisions will be binding upon each subcontractor or vendor.

21. Special Legal Requirements

- 21.1 Bidders and Contractors performing Work under this Advertisement are bound by the requirements of the Occupational Safety and Health Administration (OSHA) regulations (29 CFR Part 1910).
- 21.2 During the performance of this Contract, the Contractor shall not knowingly employ an unauthorized alien as defined in the Federal Immigration Reform and Control Act of 1986, pursuant to the *Code of Virginia*, § 2.2-4311.1.
- 21.3 Drug-Free Workplace
- A. During the performance of this Contract, the Contractor agrees to (i) provide a drug-free workplace for the Contractor's employees; (ii) post in conspicuous places, available to employees and applicants for employment, a statement notifying employees that the unlawful manufacture, sale, distribution, dispensation, possession, or use of a controlled substance or marijuana is prohibited in the contractor's workplace and specifying the actions that will be taken against employees for violations of such prohibition; (iii) state in all solicitations or advertisements for employees placed by or on behalf of the Contractor that the Contractor maintains a drug-free workplace; and (iv) include the provisions of the foregoing clauses in every subcontract or purchase order of over \$10,000, so that the provisions will be binding upon each subcontractor or vendor.
 - B. For the purposes of this section, "drug-free workplace" means a site for the performance of work done in connection with a specific contract awarded to a Contractor in accordance with this chapter, the employees of whom are prohibited from engaging in the unlawful manufacture, sale, distribution, dispensation, possession or use of any controlled substance or marijuana during the performance of the Contract.

PRE-BID QUESTION FORM

(Use separate Form for each question submitted.)

Date: _____

Project Name: Gypsy Hill Park Restroom Improvements

T&L Project No.: 16472

The following question concerns Drawing Sheet (number) _____:

The following question concerns Specification Section (number) _____, page _____, paragraph _____:

Refer to "Instructions to Bidders", Part 5 - "Interpretations and Addenda".

NOTE: QUESTIONS MAY NOT BE CONSIDERED IF RECEIVED WITHIN TEN (10) CALENDAR DAYS OF THE BID DATE. All responses to questions will be made by Addendum.

Question submitted by: _____

Name

Organization: _____

Telephone: _____

Bidders shall submit form to: Thompson & Litton, Inc.



**THOMPSON
& LITTON**

Email address: prebid@T-L.com

or

FAX No.: (276) 328-1738



BID FORM

PROJECT IDENTIFICATION:

Gypsy Hill Park Restroom Renovations

CONTRACT IDENTIFICATION NO:

T&L Project No. 16472

THIS BID IS SUBMITTED TO:

**City of Staunton
116 W. Beverley St., 3rd Floor
Staunton, Virginia 24401**

1. The undersigned Bidder proposes and agrees, if this Bid is accepted, to enter into an Agreement with Owner in the form included in the Contract Documents to perform and furnish all Work as specified or indicated in the Contract Documents for the Contract Price and within the Contract Time indicated in this Bid and in accordance with the other terms and conditions of the Contract Documents.
2. Bidder accepts all of the terms and conditions of the Advertisement and Instructions to Bidders, including without limitation those dealing with the disposition of Bid Security. This Bid will remain subject to acceptance for sixty (60) days after the day of Bid Opening. Bidder will sign and submit the Agreement with the Bonds and other documents required by the Bidding Requirements within the timeframe presented in the Instructions to Bidders.
3. In submitting this Bid, Bidder represents, as more fully set forth in the Agreement, that:
 - (A) Bidder has examined copies of all Bidding Documents and of the following Addenda (receipt of all which is hereby acknowledged):

Number	Date

- (B) Bidder has familiarized itself with the nature and extent of the Contract Documents, Work, site, locality, and all local conditions and Laws and Regulations that in any manner may affect cost, progress, performance, or furnishing of the Work.
 - (C) Bidder has obtained and carefully studied (or assumes responsibility for obtaining and carefully studying) all such examinations, investigations, explorations, tests, and studies which pertain to the subsurface or physical conditions at the site or otherwise may affect the cost, progress, performance, or furnishing of the Work as Bidder considers necessary for the performance or furnishing of the Work at the Contract time and in

accordance with the other terms and conditions of the Contract Documents, including specifically the provisions of Paragraph 3.2 of the General Conditions; and no additional examinations, investigations, explorations, tests, reports, or similar information or data are or will be required by Bidder for such purposes.

- (D) Bidder has reviewed and checked all information and data shown or indicated on the Contract Documents with respect to existing utilities at or contiguous to the site and assumes responsibility for the accurate location of said utilities. No additional examinations, investigations, explorations, tests, reports or similar information or data in respect of said utilities are or will be required by Bidder in order to perform and furnish the Work at the Contract Price, within the Contract Time and in accordance with the other terms and conditions of the Contract Documents, including specifically the provisions of Paragraph 3.2 of the General Conditions.
 - (E) Bidder has correlated the results of all such observations, examinations, investigations, explorations, tests, reports, and studies with the terms and conditions of the Contract Documents.
 - (F) Bidder has given Architect written notice of all conflicts, errors, or discrepancies that it has discovered in the Contract Documents and the written resolution thereof by Architect is acceptable to Bidder.
 - (G) This Bid is genuine and not made in the interest of or on behalf of any undisclosed person, firm, or corporation and is not submitted in conformity with any agreement or rules of any group, association, organization or corporation; Bidder has not directly or indirectly induced or solicited any other Bidder to submit a false or sham Bid; Bidder has not solicited or induced any person, firm, or corporation to refrain from bidding; and Bidder has not sought by collusion to obtain for itself any advantage over any other Bidder or over Owner.
4. Bidder will complete the Work for the prices as follows, in accordance with drawings and specifications:

BASE BID ITEMS:

Part A – Pool Restroom Improvements – Lump Sum

Dollars (\$ _____)

Part B – Concessions Restroom Improvements – Lump Sum

Dollars (\$ _____)

Part C – New North Restroom – Lump Sum

Dollars (\$ _____)

TOTAL BASE BID (Parts A, B, & C)

Dollars (\$ _____)

ALTERNATE BID ITEMS:

Additive Bid Item No. 1 – Demolish the existing North Restroom Building in its entirety including all sanitary and electrical lines. To include re-grading and reseeding area disturbed.

Dollars (\$ _____)

NOTE: The Contract, if awarded, will be based on the Total Base Bid plus Alternate. If the project bids come in over total budget or if the City decides not to accept the Alternate the award will be based strictly on Total Base Bid without regard to Alternates.

5. Bidder agrees that the Work will be substantially completed within one hundred eighty (180) consecutive calendar days after Notice to Proceed, and Final Completion shall be achieved within thirty (30) consecutive calendar days after Substantial Completion.
6. The following documents are attached to and made a condition of this Bid:
 - (A) Required Bid Security in the form of _____.
 - (B) Required Contractor's Qualification Statement with supporting data.
 - (C) Certification of Bidder Regarding Debarment.
 - (D) Workers' Compensation Certificate of Coverage.
7. Communications concerning this Bid shall be addressed to the address of Bidder indicated below.

The following address: _____

8. The terms used in this Bid which are defined in the General Conditions of the Construction Contract included as part of the Contract Documents have the meanings assigned to them in the General Conditions.

SUBMITTED on _____, 20____.

(Attach Evidence of Authority to Sign.)

IF BIDDER IS:

An Individual

By _____ (SEAL)
(Individual's Name)

doing business as _____

Business address: _____

Phone No.: _____

Email Address: _____

A Partnership

By _____
(Firm Name)

_____ (SEAL)
(General Partner)

Business address: _____

Phone No.: _____

Email Address: _____

A Corporation

By _____
(Corporation Name)

(State of Incorporation)

By _____ (SEAL)
(Name of Person Authorized to Sign)

(Title)

(Corporate Seal)

Attest _____
(Secretary)

Business address: _____

Phone No.: _____

Email Address: _____

A Joint Venture

By _____
(Name)

(Address)

By _____
(Name)

Email Address: _____

(Each joint venturer must sign. The manner of signing for each individual, partnership, and corporation that is a party to the joint venture should be in the manner indicated above).

BID BOND

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

_____ as Principal, and
_____ as Surety, are hereby held
and firmly bound unto _____ as Owner in
the penal sum of _____ for the
payment of which, well and truly to be made, we hereby jointly and severally bind ourselves, our
heirs, executors, administrators, successors and assigns.

Signed, this _____ day of _____

The condition of the above obligation is such that whereas the Principal has submitted to
_____ a certain bid attached
hereto and hereby made a part of hereof to enter into a contract in writing, for the

NOW THEREFORE,

- a) If said Bid shall be rejected, or in the alternate
- b) If said Bid shall be accepted and the Principal shall execute and deliver a contract in the Form of Contract attached hereto (properly completed in accordance with said Bid) and shall furnish a bond for his faithful performance of said contract, and for the payment of all persons performing labor or furnishing materials in connection therewith, and shall in all other respects perform the agreement created by the acceptance of said Bid.

Then this obligation shall be void, otherwise the same shall remain in force and effect; it being expressly understood and agreed that the liability of the Surety for any and all claims hereunder shall, in no event, exceed the penal amount of this obligation as herein stated.

The surety for value received, hereby stipulates and agrees that the obligations of said Surety and its bond shall be in no way impaired or affected by an extension of the time within

Bid Bond

which the Owner may accept such Bid; and said Surety does hereby waive notice of any such extension.

IN WITNESS WHEREOF, the Principal and the Surety have hereunto set their hands and seals, and such of them as are corporations have caused their corporate seals to be hereto affixed and these presents to be signed by their proper officers, the day and year first set forth above.

Principal (L.S.)

Surety

By: _____

Seal

Bid Bond

DRAFT AIA® Document A305™ – 1986

Contractor's Qualification Statement

The Undersigned certifies under oath that the information provided herein is true and sufficiently complete so as not to be misleading.

SUBMITTED TO: « »

ADDRESS: « »

SUBMITTED BY: « »

NAME: « »

ADDRESS: « »

PRINCIPAL OFFICE: « »

[« »] Corporation

[« »] Partnership

[« »] Individual

[« »] Joint Venture

[« »] Other « »

NAME OF PROJECT: (if applicable) « »

TYPE OF WORK: (file separate form for each Classification of Work)

[« »] General Construction

[« »] HVAC

[« »] Electrical

[« »] Plumbing

[« »] Other: (Specify) « »

§ 1 ORGANIZATION

§ 1.1 How many years has your organization been in business as a Contractor? « »

§ 1.2 How many years has your organization been in business under its present business name? « »

§ 1.2.1 Under what other or former names has your organization operated?

« »

§ 1.3 If your organization is a corporation, answer the following:

§ 1.3.1 Date of incorporation: « »

§ 1.3.2 State of incorporation: « »

§ 1.3.3 President's name: « »

ADDITIONS AND DELETIONS:

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

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

This form is approved and recommended by the American Institute of Architects (AIA) and The Associated General Contractors of America (AGC) for use in evaluating the qualifications of contractors. No endorsement of the submitting party or verification of the information is made by AIA or AGC.



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§ 1.3.4 Vice-president's name(s)

« »

§ 1.3.5 Secretary's name: « »

§ 1.3.6 Treasurer's name: « »

§ 1.4 If your organization is a partnership, answer the following:

§ 1.4.1 Date of organization: « »

§ 1.4.2 Type of partnership (if applicable): « »

§ 1.4.3 Name(s) of general partner(s)

« »

§ 1.5 If your organization is individually owned, answer the following:

§ 1.5.1 Date of organization: « »

§ 1.5.2 Name of owner:

« »

§ 1.6 If the form of your organization is other than those listed above, describe it and name the principals:

« »

§ 2 LICENSING

§ 2.1 List jurisdictions and trade categories in which your organization is legally qualified to do business, and indicate registration or license numbers, if applicable.

« »

§ 2.2 List jurisdictions in which your organization's partnership or trade name is filed.

« »

§ 3 EXPERIENCE

§ 3.1 List the categories of work that your organization normally performs with its own forces.

« »

§ 3.2 Claims and Suits. (If the answer to any of the questions below is yes, please attach details.)

§ 3.2.1 Has your organization ever failed to complete any work awarded to it?

« »

§ 3.2.2 Are there any judgments, claims, arbitration proceedings or suits pending or outstanding against your organization or its officers?

« »

§ 3.2.3 Has your organization filed any law suits or requested arbitration with regard to construction contracts within the last five years?

« »

§ 3.3 Within the last five years, has any officer or principal of your organization ever been an officer or principal of another organization when it failed to complete a construction contract? (If the answer is yes, please attach details.)

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<< >>

§ 3.4 On a separate sheet, list major construction projects your organization has in progress, giving the name of project, owner, architect, contract amount, percent complete and scheduled completion date.

<< >>

§ 3.4.1 State total worth of work in progress and under contract:

<< >>

§ 3.5 On a separate sheet, list the major projects your organization has completed in the past five years, giving the name of project, owner, architect, contract amount, date of completion and percentage of the cost of the work performed with your own forces.

<< >>

§ 3.5.1 State average annual amount of construction work performed during the past five years:

<< >>

§ 3.6 On a separate sheet, list the construction experience and present commitments of the key individuals of your organization.

<< >>

§ 4 REFERENCES

§ 4.1 Trade References:

<< >>

§ 4.2 Bank References:

<< >>

§ 4.3 Surety:

§ 4.3.1 Name of bonding company:

<< >>

§ 4.3.2 Name and address of agent:

<< >>

§ 5 FINANCING

§ 5.1 Financial Statement.

§ 5.1.1 Attach a financial statement, preferably audited, including your organization's latest balance sheet and income statement showing the following items:

Current Assets (e.g., cash, joint venture accounts, accounts receivable, notes receivable, accrued income, deposits, materials inventory and prepaid expenses);

Net Fixed Assets;

Other Assets;

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Current Liabilities (e.g., accounts payable, notes payable, accrued expenses, provision for income taxes, advances, accrued salaries and accrued payroll taxes);

Other Liabilities (e.g., capital, capital stock, authorized and outstanding shares par values, earned surplus and retained earnings).

§ 5.1.2 Name and address of firm preparing attached financial statement, and date thereof:

« »

§ 5.1.3 Is the attached financial statement for the identical organization named on page one?

« »

§ 5.1.4 If not, explain the relationship and financial responsibility of the organization whose financial statement is provided (e.g., parent-subsidiary).

« »

§ 5.2 Will the organization whose financial statement is attached act as guarantor of the contract for construction?

« »

§ 6 SIGNATURE

§ 6.1 Dated at this « » day of « » « »

Name of Organization: « »

By: « »

Title: « »

§ 6.2

« »

M « » being duly sworn deposes and says that the information provided herein is true and sufficiently complete so as not to be misleading.

Subscribed and sworn before me this « » day of « » « »

Notary Public: « »

My Commission Expires: « »

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COMMONWEALTH OF VIRGINIA

WORKERS' COMPENSATION

Certificate of Coverage

Section 2.2-4332, Code of Virginia, requires construction contractors and subcontractors to obtain and maintain workers' compensation insurance while performing work on behalf of the Commonwealth of Virginia, its departments, institutions, or agencies. This same requirement applies on behalf of local governments.

Evidence of coverage must be provided prior to commencement of Work.

This form must be completed and returned to the organization contracting the Work.

The undersigned organization stipulates that it:

- A. has workers' compensation insurance and is in compliance with the Workers' Compensation statutes of the Commonwealth of Virginia. ____ Yes ____ No
Insurance Company _____
Policy expiration date _____
- B. is self insured for workers' compensation. ____ Yes

Title of Construction Contract: _____

Contract Number: _____

Signed by: _____

Title: _____

Firm Name: _____

Address: _____

CERTIFICATION OF BIDDER REGARDING DEBARMENT
BY AGENCY OF THE COMMONWEALTH OF VIRGINIA

This is to certify that this person/firm/corporation has not been barred from bidding on contracts by any agency of The Commonwealth of Virginia, nor is this person/firm/corporation a part of any firm/corporation that has been barred from bidding on contracts by any agency of The Commonwealth of Virginia.

Name of Official

Title

Firm or Corporation

Date

DRAFT AIA® Document A101™ – 2017

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

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

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

« »
« »
« »
« »

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.

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

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

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TABLE OF ARTICLES

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

ARTICLE 1 THE CONTRACT DOCUMENTS

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

ARTICLE 2 THE WORK OF THIS CONTRACT

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

ARTICLE 3 DATE OF COMMENCEMENT AND SUBSTANTIAL COMPLETION

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

(Check one of the following boxes.)

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

« »

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

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

§ 3.3 Substantial Completion

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

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

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

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[« »] By the following date: « »

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

Portion of Work	Substantial Completion Date

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

ARTICLE 4 CONTRACT SUM

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

§ 4.2 Alternates

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

Item	Price

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

Item	Price	Conditions for Acceptance

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

Item	Price

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

Item	Units and Limitations	Price per Unit (\$0.00)

§ 4.5 Liquidated damages, if any:
(Insert terms and conditions for liquidated damages, if any.)

« »

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

« »

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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 amount certified 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 of the amount certified 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 of values shall be used as a basis for reviewing the Contractor's Applications for Payment.

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

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

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

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

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

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

§ 5.1.7 Retainage

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

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

« »

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§ 5.1.7.1.1 The following items are not subject to retainage:
(Insert any items not subject to the withholding of retainage, such as general conditions, insurance, etc.)

« »

§ 5.1.7.2 Reduction or limitation of retainage, if any, shall be as follows:
(If the retainage established in Section 5.1.7.1 is to be modified prior to Substantial Completion of the entire Work, including modifications for Substantial Completion of portions of the Work as provided in Section 3.3.2, insert provisions for such modifications.)

« »

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

« »

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

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

§ 5.2 Final Payment

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

- .1 the Contractor has fully performed the Contract except for the Contractor’s responsibility to correct Work as provided in Article 12 of AIA Document A201–2017, and to satisfy other requirements, if any, which extend beyond final payment; 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:

« »

§ 5.3 Interest

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

« » % « »

ARTICLE 6 DISPUTE RESOLUTION

§ 6.1 Initial Decision Maker

The Architect will serve as the Initial Decision Maker pursuant to Article 15 of AIA Document A201–2017, unless the parties appoint below another individual, not a party to this Agreement, to serve as the Initial Decision Maker.
(If the parties mutually agree, insert the name, address and other contact information of the Initial Decision Maker, if other than the Architect.)

« »

« »

« »

« »

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§ 6.2 Binding Dispute Resolution

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

(Check the appropriate box.)

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

☐ Litigation in a court of competent jurisdiction

☐ Other *(Specify)*

☐

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

ARTICLE 7 TERMINATION OR SUSPENSION

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

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

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

☐

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

ARTICLE 8 MISCELLANEOUS PROVISIONS

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

§ 8.2 The Owner’s representative:

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

☐

☐

☐

☐

☐

☐

§ 8.3 The Contractor’s representative:

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

☐

☐

☐

☐

☐

☐

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

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§ 8.5 Insurance and Bonds

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

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

§ 8.6 Notice in electronic format, pursuant to Article 1 of AIA Document A201–2017, may be given in accordance with AIA Document E203™–2013, Building Information Modeling and Digital Data Exhibit, if completed, or as otherwise set forth below:

(If other than in accordance with AIA Document E203–2013, insert requirements for delivering notice in electronic format such as name, title, and email address of the recipient and whether and how the system will be required to generate a read receipt for the transmission.)

« »

§ 8.7 Other provisions:

« »

ARTICLE 9 ENUMERATION OF CONTRACT DOCUMENTS

§ 9.1 This Agreement is comprised of the following documents:

- .1 AIA Document A101™–2017, Standard Form of Agreement Between Owner and Contractor
- .2 AIA Document A101™–2017, Exhibit A, Insurance and Bonds
- .3 AIA Document A201™–2017, General Conditions of the Contract for Construction
- .4 AIA Document E203™–2013, Building Information Modeling and Digital Data Exhibit, dated as indicated below:

(Insert the date of the E203-2013 incorporated into this Agreement.)

« »

- .5 Drawings

Number	Title	Date

- .6 Specifications

Section	Title	Date	Pages

- .7 Addenda, if any:

Number	Date	Pages

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

- .8 Other Exhibits:

(Check all boxes that apply and include appropriate information identifying the exhibit where required.)

[« »] AIA Document E204™–2017, Sustainable Projects Exhibit, dated as indicated below:
(Insert the date of the E204-2017 incorporated into this Agreement.)

« »

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[« »] The Sustainability Plan:

Title	Date	Pages

[« »] Supplementary and other Conditions of the Contract:

Document	Title	Date	Pages

- .9 Other documents, if any, listed below:
(List here any additional documents that are intended to form part of the Contract Documents. AIA Document A201™-2017 provides that the advertisement or invitation to bid, Instructions to Bidders, sample forms, the Contractor's bid or proposal, portions of Addenda relating to bidding or proposal requirements, and other information furnished by the Owner in anticipation of receiving bids or proposals, are not part of the Contract Documents unless enumerated in this Agreement. Any such documents should be listed here only if intended to be part of the Contract Documents.)

« »

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

OWNER (Signature)

« »« »

(Printed name and title)

CONTRACTOR (Signature)

« »« »

(Printed name and title)

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THOMPSON
& LITTON

REQUEST FOR ELECTRONIC FILES

T&L PROJECT NUMBER: 16472

PROJECT NAME: Gypsy Hill Park Restroom Renovations

FILES REQUESTED: _____

AUTOCAD VERSION REQUESTED: _____

The undersigned organization accepts the following provisions regarding use of the requested electronic files:

- A. The undersigned agrees not to reuse these electronic files, in part or in whole, for any purpose or project other than the above referenced project.
- B. The undersigned agrees to waive all claims against Thompson & Litton resulting in any way from any unauthorized changes or reuse of these electronic files for any other project by anyone other than Thompson & Litton.
- C. The undersigned is aware that significant differences may exist between the electronic files delivered and the respective construction documents due to addenda, change orders, or other revisions. In the event of a conflict between the signed construction documents prepared by Thompson & Litton and electronic files, the signed construction documents shall govern.
- D. The undersigned agrees that any subcontractors to the undersigned which utilize these electronic files will be bound by all of the above provisions.

Signed by: _____

Title: _____

Firm Name: _____

Date: _____

PERFORMANCE BOND

KNOW ALL MEN BY THESE PRESENTS: that _____

(Insert full name or legal title and address of Contractor)

As Principal, hereinafter called Contractor,
and _____

(Insert full name or legal title and address of Surety)

As Surety, hereinafter called Surety, are held and firmly bound unto _____

(Insert name and address of Owner)

As Obligee in the amount of:

Dollars.

(Insert sum equal to contract price in both words and figures)

for the payment whereof Contractor and Surety bind themselves, their heirs, executors,
administrators, successors and assigns, jointly and severally, firmly by these presents

WHEREAS,

Contractor has by written agreement dated _____
,entered into a Contract with Owner for:

(Insert name or description and location of project)

in accordance with Drawings and Specifications as prepared by:

(Insert full name or legal title and address)

which Contract is by reference made a part hereof, and is hereinafter referred to as the Contract.

NOW, THEREFORE, THE CONDITION OF THIS OBLIGATION is such that, if Contractor shall promptly and faithfully perform said Contract, in strict conformity with the Drawings, Specifications and Contract Documents, then this obligation shall be null and void. Otherwise, it shall remain in full force and effect for one (1) year after completion of all work:

- a. The Surety hereby waives notice of any alternation or extension of time made by the Owner.
- b. Any suit under this bond must be instituted, (1) before the expiration of one (1) year after completion of the Contract including the expiration of all warranties and guarantees, or (2) before the expiration of one (1) year after a defect or breach of warranty is discovered, if the action be for such.
- c. No right of action shall accrue on this bond to or for the use of any person or corporation other than the Owner named herein or the successors or assigns of Owner and every action brought hereon shall be filed and maintained solely in the General District Court or the Circuit Court of the City of Staunton, Virginia.

SIGNED AND SEALED THIS _____ day of _____ , _____

In the presence of:

PRINCIPAL (SEAL)

WITNESS

BY TITLE

SURETY

WITNESS

BY TITLE

Surety: (Attach power of attorney)

CONTRACTOR'S PERFORMANCE BOND

Project: _____

PAYMENT BOND

KNOW ALL MEN BY THESE PRESENTS:

that _____

(Insert full name or legal title and address of Contractor)

as Principal, hereinafter called Contractor,

and _____

(Insert full name or legal title and address of Surety)

as Surety, hereinafter called Surety, are held and firmly bound unto

(Insert full name or legal title and address of Owner)

as Obligee for the use and benefit of claimants as herein below defined in the amount of: _____

(Insert sum equal to contract price in both words and figures)

for the payment whereof Contractor and Surety bind themselves, their heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

WHEREAS,

Contractor has by written agreement dated
entered into a Contract with Owner for:

(Insert name or description and location of project)

in accordance with Drawings and Specifications as prepared by: _____

(Insert full name or legal title and address)

which Contract is by reference made a part hereof, and is hereinafter referred to as the Contract.

NOW, THEREFORE, THE CONDITION OF THIS OBLIGATION is such that if the Contractor shall promptly make payment to all claimants as hereinafter defined, for all labor and materials used or reasonable required for use in the performance of the Contract, then this obligation shall

be void. Otherwise, it shall remain in full force and effect, subject, however, to the following conditions:

- a. A Claimant is defined as one having a direct contract with the Contractor for labor, material, or both, used or reasonably required for use in the performance of the Contract, labor and material being construed to include that part of water, gas, power, light, heat, oil, gasoline, telephone service or rental of equipment directly applicable to the Contract.
- b. The above-named Contractor and Surety hereby jointly and severally agree with the Owner that every claimant as herein defined, who has not been paid in full before the expiration of a period of ninety (90) days after the date on which the last of such claimant's work of labor was done or performed, or materials were furnished by such claimant, may sue on this bond, prosecute the suit to final judgment for such sum or sums as may be justly due claimant and have execution thereon. The Owner shall not be liable for the payment of any costs or expenses of any such suit.
- c. Any suit or action hereunder by any claimant:
 1. Shall not be commenced after the expiration of one (1) year following the date on which the claimant last performed labor or last supplied materials.
 2. Shall be filed and maintained solely in the General District Court or the Circuit Court of the City of Staunton, Virginia.

SIGNED AND SEALED THIS _____ day of _____
in the presence of:

PRINCIPAL (SEAL)

WITNESS

BY _____ TITLE _____

SURETY (SEAL)

WITNESS

BY _____ TITLE _____

Surety:
(Attach power of attorney)

CONTRACTOR'S LABOR AND MATERIAL
PAYMENT BOND

Project _____

**THOMPSON
& LITTON****PAYMENT APPLICATION CHECKLIST***(must be submitted by Contractor with each Application for Payment)*

APPLICATION FOR PAYMENT NO.: _____

PROJECT NAME: Gypsy Hill Park Restroom ImprovementsT&L PROJECT NO.: 16472

CONTRACTOR NAME: _____

FIRST PAYMENT APPLICATION (IN ADDITION TO PROGRESS PAY APPLICATIONS ITEMS BELOW):

- ☐ SCHEDULE OF VALUES HAS BEEN SUBMITTED AND APPROVED
- ☐ FIELD OFFICE IS IN PLACE (IF APPLICABLE)
- ☐ SUBCONTRACTOR LIST HAS BEEN SUBMITTED
- ☐ PROJECT/BUSINESS SIGN SKETCH(ES) SUBMITTED AND APPROVED

PROGRESS PAYMENT APPLICATIONS:

- ☐ CONSTRUCTION PHOTOGRAPHS
- ☐ CONSTRUCTION PROGRESS SCHEDULE (N/A FOR FINAL PAY APPS)
- ☐ WEATHER DELAY REQUEST
- ☐ ALL APPLICABLE SUPPORTING DOCUMENTATION
- ☐ AFFIDAVIT ATTESTING TO OFF-SITE STORED PRODUCTS (IF APPLICABLE)
- ☐ SUSTAINABLE DESIGN DOCUMENTATION (IF APPLICABLE)

FINAL PAYMENT APPLICATION (IN ADDITION TO PROGRESS PAY APPLICATION ITEMS ABOVE):

- ☐ O&M DATA (IF APPLICABLE)
- ☐ GUARANTEES & WARRANTIES (IF APPLICABLE)
- ☐ PROJECT RECORD DOCUMENTS
- ☐ SPARE PARTS AND MAINTENANCE MATERIALS (IF APPLICABLE)
- ☐ LIST OF MANUFACTURERS, SUPPLIERS, SUBCONTRACTORS AND INSTALLERS WITH ADDRESSES/PHONE NOS.
- ☐ AFFIDAVIT OF PAYMENT OF DEBTS AND CLAIMS
- ☐ AFFIDAVIT OF RELEASE OF LIENS
- ☐ CONSENT OF SURETY TO FINAL PAYMENT
- ☐ FINAL INSPECTION CONDUCTED AND PUNCH LIST ITEMS ADDRESSED
- ☐ FINAL CLEANING CONDUCTED

ESCROW ACCOUNT ELECTION

ELECTION OF ESCROW ACCOUNT PROCEDURE FOR RETAINAGE

If determined to be the successful low bidder(s), the below signed elects to use the Escrow Account Procedure for retainage.

Write "Yes" or "No" on above line

If the successful bidder elects ("Yes") to use the Escrow Account Procedure for Retainage, the following "Escrow Agreement" form provided below shall be executed and submitted to the City within fifteen (15) calendar days after notification. If the "Escrow Agreement" form is not submitted within the fifteen (15) day period, the Contractor shall forfeit his rights to the use of the Escrow Account Procedure.

Company: _____

Authorized Signature: _____

SIGNATURE PAGE TO FOLLOW

ESCROW AGREEMENT
CITY OF STAUNTON, VIRGINIA

THIS AGREEMENT ("Agreement"), made and entered into this _____ day of _____, 2020 by, between and among the City of Staunton, Virginia ("City" or Owner"),

_____, ("Contractor"),

_____, (Name of Escrow Agent)

_____, (Address of Escrow Agent)

a trust company, bank, or savings and loan institution (hereinafter referred to collectively as "Escrow Agent") with its principal office located in the Commonwealth of Virginia ("Commonwealth") and _____ ("Surety") provides:

I.

The City and the Contractor have entered into a contract dated _____ with respect to City of Staunton ITB No. _____, for _____ ("Contract"). This

Agreement is pursuant to, but in no way amends or modifies, the Contract. Payments made hereunder or the release of funds from escrow shall not be deemed approval or acceptance of performance by the Contractor. Payments should be made to _____ and mailed to _____ (Name and Address of Escrow Agent).

II.

In order to assure full and satisfactory performance by the Contractor of its obligations under the Contract, the City is required thereby to retain certain amounts otherwise due the Contractor. The Contractor has, with the approval of the City, elected to have these retained amounts held in escrow by the Escrow Agent. This agreement sets forth the terms of the escrow. The Escrow Agent shall not be deemed a party to, bound by, or required to inquire into the terms of the Contract or any other instrument or agreement between the City and the Contractor.

III.

The City shall from time to time pursuant to the Contract pay to the Escrow Agent amounts retained by it under the Contract. Except as to amounts actually withdrawn from escrow by the City, the Contractor shall look solely to the Escrow Agent for the payment of funds retained under the Contract and paid by the City to the Escrow Agent.

The risk of loss by diminution of the principal of any funds invested under the terms of the Contract shall be solely upon the Contractor.

Funds and securities held by the Escrow Agent pursuant to this Escrow Agreement shall not be subject to levy, garnishment, attachment, lien, or other process whatsoever. Contractor agrees not to assign, pledge, discount, sell or otherwise transfer or dispose of his interest in the escrow account or any part thereof, except to the Surety.

IV.

Upon receipt of checks drawn by the City and made payable to the Escrow Agent under this agreement, the Escrow Agent shall promptly notify the Contractor, negotiate the same and deposit or invest and reinvest the proceeds in approved securities in accordance with the written instructions of the Contractor. In no event shall the Escrow Agent invest the escrowed funds in any security not approved, as set forth in Section V. below.

V.

The following securities, and none other, are approved securities for all purposes of this Agreement:

- (1) United States Treasury Bonds, United States Treasury Notes, United States Treasury Certificates of Indebtedness or United States Treasury Bills,
- (2) Bonds, notes and other evidences of indebtedness unconditionally guaranteed as to the payment of principal and interest by the United States,
- (3) Bonds or notes of the Commonwealth of Virginia,
- (4) Bonds of any political subdivision of the Commonwealth of Virginia, if such bonds carried, at the time of purchase by the Escrow Agent or deposit by the Contractor, a Standard and Poor's or Moody's Investor Service rating of at least "A", and
- (5) Certificates of deposit issued by commercial Banks located within the Commonwealth of Virginia, including, but not limited to, those insured by the Escrow Agent and its affiliates.
- (6) Any bonds, notes, or other evidences of indebtedness listed in Sections (1) through (3) may be purchased pursuant to a repurchase agreement with a bank, within or without the Commonwealth of Virginia having a combined capital, surplus and undivided profit of not less than \$25,000,000, provided the obligation of the bank to repurchase is within the time limitations established for investments as set forth herein. The repurchase agreement shall be considered a purchase of such securities even if title, and/or possession of such securities is not transferred to the Escrow Agent, so long as the repurchase obligation of the bank is collateralized by the securities themselves, and the securities have on the date of the repurchase agreement a fair market value equal to at least 100% of the amount of the repurchase obligation of the bank, and the securities are held by a third party, and segregated from other securities owned by the bank.
- (7) No security is approved hereunder which matures more than five (5) years after the date of its purchase by the Escrow Agent or deposit by the Contractor.

VI.

The Contractor may from time to time withdraw the whole or any portion of the escrowed funds by depositing with the Escrow Agent approved securities as set forth in Section V. above in an amount equal to, or in excess of, the amount so withdrawn. Any securities so deposited or withdrawn shall be valued at such time of deposit or withdrawal at the lower of par or market value, the latter as determined by the Escrow Agent. Any securities so deposited shall thereupon become a part of the escrowed fund.

Upon receipt of a direction signed by the City of Staunton Director of Finance or designee, the Escrow Agent shall pay the principal of the fund, or any specified amount thereof, to the City or the Contractor as the City may direct. If payment is to be made to the Staunton City Treasurer, it shall be made in cash or cash equivalent. However, if payment has been authorized to be made to the Contractor, the Contractor

may specify to the Escrow Agent if payment is to be made in cash or in kind. Any such payment and delivery required hereunder shall be made as soon as is practicable after receipt of the direction.

VII.

For its services hereunder, the Escrow Agent shall be entitled to a reasonable fee in accordance with its published schedule of fees or as may be agreed upon by the Escrow Agent and the Contractor. Such fee and any other costs of administration of this Agreement shall be paid from the income earned upon the escrowed fund and, if such income is not sufficient to pay the same, by the Contractor.

VIII.

The net income earned and received upon the principal of the escrowed fund shall be paid over to the Contractor in quarterly or more frequent installments. Until so paid or applied to pay the Escrow Agent's fee or any other costs of administration, such income shall be deemed a part of the principal of the fund.

IX.

The Surety undertakes no obligation hereby but joins in this Agreement for the sole purpose of acknowledging that its obligations as surety for the Contractor's performance of the contract are not affected hereby.

X.

This Escrow Agreement shall be governed by, and construed in accordance with, the laws of the Commonwealth of Virginia, without application of Virginia's conflict of law provisions. Venue and any actions for any litigation, suits, and claims arising from or connected with this Escrow Agreement and/or Contract referred to herein shall only be proper in the City of Staunton Circuit Court, or in the Staunton General District Court if the amount in controversy is within the jurisdictional limit of such court, and all parties to this Escrow Agreement and/or such Contract voluntarily submit themselves to the jurisdiction and venue of such courts, regardless of the actual location of such parties.

Escrow Account Election Form

IN WITNESS WHEREOF, the parties hereto have signed this Escrow Agreement by their authorized representatives.

Attest: (if corporation)
Witness: (if individual)

Typed Name of Contractor

Attest:

President/Vice-President
Partner or Owner (Seal)

Typed Name of Escrow Agent

Bank Officer

Vice President

Witness:

Typed Name of Surety Company

By: _____
Attorney-In-Fact

Attest:

City of Staunton, Virginia

City Clerk

City Manager

Approved as to form:

City Attorney

Approved as to execution:

City Attorney



THOMPSON
& LITTON

REQUEST FOR INFORMATION

RFI NO. _____

TO: Thompson & Litton, Inc.
726 Auburn Avenue
Radford, VA 24141
FAX: (540) 633-1896
Email: kpyles@t-l.com

From: _____

Date: _____

Please Respond By: _____

T&L Project No.: 16472

Project Name: Gypsy Hill Park Restroom Improvements

We request the following information/clarification:

SIGNED: _____

TITLE: _____

T&L RESPONSE:

BY: _____

DATE: _____



REQUEST FOR SUBSTITUTION

USE SEPARATE FORM FOR EACH SUBMITTAL

Note: Requests for Substitution will be considered
after project award.

DATE: _____

TO: _____

PROJECT NAME: Gypsy Hill Park Restroom Improvements

PROJECT NUMBER: 16472

NAME AND ADDRESS OF CONTRACTOR

HEREBY REQUESTS APPROVAL OF THE FOLLOWING PRODUCT OR SYSTEM AS AN "APPROVED
EQUAL"

NAME AND DESCRIPTION OF SPECIFIED PRODUCT OR SYSTEM:

SPECIFICATION SECTION NO. _____ PAGE(S) _____ PARAGRAPH(S) _____

DRAWING NO.(S) _____ DETAILS OR SECTION NO.(S) _____

NAME AND DESCRIPTION OF SUBMITTAL FOR SUBSTITUTION:

NAME OF MANUFACTURER: _____

ADDRESS: _____ TELEPHONE: _____

NAME OF VENDOR: _____

ADDRESS: _____ TELEPHONE: _____

REASON FOR NOT-GIVING PRIORITY TO SPECIFIED ITEMS:

SUBSTITUTION AFFECTS OTHER MATERIALS OR SYSTEMS:

YES____ NO____ IF YES, ATTACH COMPLETE DATA

SUBSTITUTION REQUIRES DIMENSIONAL REV. OR REDESIGN OF STRUCTURE OR M&E REV:

YES____ NO____ IF YES, ATTACH COMPLETE DATA

SAVING OR CREDIT TO OWNER FOR ACCEPTING SUBSTITUTION:

\$_____

THE ATTACHED DATA IS FURNISHED HERewith FOR EVALUATION OF THE SUBSTITUTION:

CATALOG_____ DRAWINGS_____ EXAMPLES_____ TESTS_____ REPORTS_____

OTHER_____

THE UNDERSIGNED HEREBY CERTIFIES THAT THIS SUBMISSION HAS BEEN FULLY CHECKED AND
COORDINATED WITH THE CONTRACT DOCUMENTS:

CONTRACTOR NAME

BY: _____

For Use by Thompson & Litton:

This Request is: _____ **Approved**
_____ **Denied**

Reviewed By: _____ **Date:** _____



AIA® Document A201® – 2017

General Conditions of the Contract for Construction

for the following PROJECT:

(Name and location or address)

Gypsy Hill Park Restroom Renovations
Staunton, Virginia

THE OWNER:

(Name, legal status and address)

City of Staunton
116 W. Beverley St., 3rd Floor
Staunton, Virginia 24401

THE ARCHITECT:

(Name, legal status and address)

Thompson and Litton, Inc.
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Radford, Virginia 24141

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ARTICLE 1 GENERAL PROVISIONS

§ 1.1 Basic Definitions

§ 1.1.1 The Contract Documents

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

§ 1.1.2 The Contract

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

§ 1.1.3 The Work

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

§ 1.1.4 The Project

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

§ 1.1.5 The Drawings

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

§ 1.1.6 The Specifications

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

§ 1.1.7 Instruments of Service

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

§ 1.1.8 Initial Decision Maker

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

§ 1.2 Correlation and Intent of the Contract Documents

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

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

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

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

§ 1.3 Capitalization

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

§ 1.4 Interpretation

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

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

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

§ 1.5.2 The Contractor, Subcontractors, Sub-subcontractors, and suppliers are authorized to use and reproduce the Instruments of Service provided to them, subject to any protocols established pursuant to Sections 1.7 and 1.8, solely and exclusively for execution of the Work. All copies made under this authorization shall bear the copyright notice, if any, shown on the Instruments of Service. The Contractor, Subcontractors, Sub-subcontractors, and suppliers may not use the Instruments of Service on other projects or for additions to the Project outside the scope of the Work without the specific written consent of the Owner, Architect, and the Architect's consultants.

§ 1.6 Notice

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

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

§ 1.7 Digital Data Use and Transmission

The parties shall agree upon protocols governing the transmission and use of Instruments of Service or any other information or documentation in digital form. The parties will use AIA Document E203™–2013, Building Information Modeling and Digital Data Exhibit, to establish the protocols for the development, use, transmission, and exchange of digital data.

§ 1.8 Building Information Models Use and Reliance

Any use of, or reliance on, all or a portion of a building information model without agreement to protocols governing the use of, and reliance on, the information contained in the model and without having those protocols set forth in AIA Document E203™–2013, Building Information Modeling and Digital Data Exhibit, and the requisite AIA Document

G202™–2013, Project Building Information Modeling Protocol Form, shall be at the using or relying party's sole risk and without liability to the other party and its contractors or consultants, the authors of, or contributors to, the building information model, and each of their agents and employees.

ARTICLE 2 OWNER

§ 2.1 General

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

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

§ 2.2 Evidence of the Owner's Financial Arrangements

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

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

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

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

§ 2.3 Information and Services Required of the Owner

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

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

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

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

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

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

§ 2.4 Owner's Right to Stop the Work

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

§ 2.5 Owner's Right to Carry Out the Work

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

ARTICLE 3 CONTRACTOR

§ 3.1 General

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

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

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

§ 3.2 Review of Contract Documents and Field Conditions by Contractor

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

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

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

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

§ 3.3 Supervision and Construction Procedures

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

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

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

§ 3.4 Labor and Materials

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

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

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

§ 3.5 Warranty

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

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

§ 3.6 Taxes

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

§ 3.7 Permits, Fees, Notices and Compliance with Laws

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

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

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

§ 3.7.4 Concealed or Unknown Conditions

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

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

§ 3.8 Allowances

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

§ 3.8.2 Unless otherwise provided in the Contract Documents,

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

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

§ 3.9 Superintendent

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

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

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

§ 3.10 Contractor's Construction and Submittal Schedules

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

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

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

§ 3.11 Documents and Samples at the Site

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

delivered to the Architect for submittal to the Owner upon completion of the Work as a record of the Work as constructed.

§ 3.12 Shop Drawings, Product Data and Samples

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

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

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

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

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

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

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

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

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

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

§ 3.12.10.1 If professional design services or certifications by a design professional related to systems, materials, or equipment are specifically required of the Contractor by the Contract Documents, the Owner and the Architect will

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

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

§ 3.13 Use of Site

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

§ 3.14 Cutting and Patching

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

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

§ 3.15 Cleaning Up

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

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

§ 3.16 Access to Work

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

§ 3.17 Royalties, Patents and Copyrights

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

§ 3.18 Indemnification

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

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

ARTICLE 4 ARCHITECT

§ 4.1 General

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

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

§ 4.2 Administration of the Contract

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

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

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

§ 4.2.4 Communications

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

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

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

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

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

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

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

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

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

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

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

ARTICLE 5 SUBCONTRACTORS

§ 5.1 Definitions

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

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

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

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

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

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

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

§ 5.3 Subcontractual Relations

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

§ 5.4 Contingent Assignment of Subcontracts

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

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

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

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

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

ARTICLE 6 CONSTRUCTION BY OWNER OR BY SEPARATE CONTRACTORS

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

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

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

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

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

§ 6.2 Mutual Responsibility

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

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

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

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

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

§ 6.3 Owner's Right to Clean Up

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

ARTICLE 7 CHANGES IN THE WORK

§ 7.1 General

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

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

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

§ 7.2 Change Orders

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

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

§ 7.3 Construction Change Directives

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

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

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

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

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

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

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

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

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

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

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

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

§ 7.4 Minor Changes in the Work

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

ARTICLE 8 TIME

§ 8.1 Definitions

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

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

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

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

§ 8.2 Progress and Completion

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

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

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

§ 8.3 Delays and Extensions of Time

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

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

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

ARTICLE 9 PAYMENTS AND COMPLETION

§ 9.1 Contract Sum

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

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

§ 9.2 Schedule of Values

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

§ 9.3 Applications for Payment

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

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

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

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

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

§ 9.4 Certificates for Payment

§ 9.4.1 The Architect will, within seven days after receipt of the Contractor's Application for Payment, either (1) issue to the Owner a Certificate for Payment in the full amount of the Application for Payment, with a copy to the Contractor; or (2) issue to the Owner a Certificate for Payment for such amount as the Architect determines is properly due, and notify the Contractor and Owner of the Architect's reasons for withholding certification in part as provided in Section 9.5.1; or (3) withhold certification of the entire Application for Payment, and notify the Contractor and Owner of the Architect's reason for withholding certification in whole as provided in Section 9.5.1.

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

§ 9.5 Decisions to Withhold Certification

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

- .1 defective Work not remedied;
- .2 third party claims filed or reasonable evidence indicating probable filing of such claims, unless security acceptable to the Owner is provided by the Contractor;
- .3 failure of the Contractor to make payments properly to Subcontractors or suppliers for labor, materials or equipment;

- .4 reasonable evidence that the Work cannot be completed for the unpaid balance of the Contract Sum;
- .5 damage to the Owner or a Separate Contractor;
- .6 reasonable evidence that the Work will not be completed within the Contract Time, and that the unpaid balance would not be adequate to cover actual or liquidated damages for the anticipated delay; or
- .7 repeated failure to carry out the Work in accordance with the Contract Documents.

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

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

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

§ 9.6 Progress Payments

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

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

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

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

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

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

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

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

§ 9.7 Failure of Payment

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

§ 9.8 Substantial Completion

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

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

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

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

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

§ 9.9 Partial Occupancy or Use

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

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

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

§ 9.10 Final Completion and Final Payment

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

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

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

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

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

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

ARTICLE 10 PROTECTION OF PERSONS AND PROPERTY

§ 10.1 Safety Precautions and Programs

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

§ 10.2 Safety of Persons and Property

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

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

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

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

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

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

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

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

§ 10.2.8 Injury or Damage to Person or Property

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

§ 10.3 Hazardous Materials and Substances

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

§ 10.3.2 Upon receipt of the Contractor's notice, the Owner shall obtain the services of a licensed laboratory to verify the presence or absence of the material or substance reported by the Contractor and, in the event such material or substance is found to be present, to cause it to be rendered harmless. Unless otherwise required by the Contract Documents, the Owner shall furnish in writing to the Contractor and Architect the names and qualifications of persons or entities who are to perform tests verifying the presence or absence of the material or substance or who are to perform the task of removal or safe containment of the material or substance. The Contractor and the Architect will

promptly reply to the Owner in writing stating whether or not either has reasonable objection to the persons or entities proposed by the Owner. If either the Contractor or Architect has an objection to a person or entity proposed by the Owner, the Owner shall propose another to whom the Contractor and the Architect have no reasonable objection. When the material or substance has been rendered harmless, Work in the affected area shall resume upon written agreement of the Owner and Contractor. By Change Order, the Contract Time shall be extended appropriately and the Contract Sum shall be increased by the amount of the Contractor's reasonable additional costs of shutdown, delay, and start-up.

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

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

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

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

§ 10.4 Emergencies

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

ARTICLE 11 — INSURANCE AND BONDS

§ 11.1 Contractor's Insurance and Bonds

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

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

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

§ 11.1.4 Notice of Cancellation or Expiration of Contractor's Required Insurance. Within three (3) business days of the date the Contractor becomes aware of an impending or actual cancellation or expiration of any insurance required by the Contract Documents, the Contractor shall provide notice to the Owner of such impending or actual cancellation or

expiration. Upon receipt of notice from the Contractor, the Owner shall, unless the lapse in coverage arises from an act or omission of the Owner, have the right to stop the Work until the lapse in coverage has been cured by the procurement of replacement coverage by the Contractor. The furnishing of notice by the Contractor shall not relieve the Contractor of any contractual obligation to provide any required coverage.

§ 11.2 Owner's Insurance

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

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

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

§ 11.3 Waivers of Subrogation

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

ARTICLE 11 INSURANCE AND BONDS [A201-2017 Article 11 language has been deleted in its entirety and replaced with language below]

§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.

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

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

The Owner, at the Owner's option, may purchase and maintain insurance that will protect the Owner against loss of use of the Owner's property, or the inability to conduct normal operations, due to fire or other causes of loss. The

Owner waives all rights of action against the Contractor and Architect for loss of use of the Owner's property, due to fire or other hazards however caused.

§11.5 Adjustment and Settlement of Insured Loss

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

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

§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. *(Paragraphs deleted)*

§ 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, falsework, 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.
(Paragraph deleted)

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

§ 12.2 Correction of Work

§ 12.2.1 Before Substantial Completion

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

§ 12.2.2 After Substantial Completion

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

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

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

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

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

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

§ 12.3 Acceptance of Nonconforming Work

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

ARTICLE 13 MISCELLANEOUS PROVISIONS

§ 13.1 Governing Law

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

§ 13.2 Successors and Assigns

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

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

§ 13.3 Rights and Remedies

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

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

§ 13.4 Tests and Inspections

§ 13.4.1 Tests, inspections, and approvals of portions of the Work shall be made as required by the Contract Documents and by applicable laws, statutes, ordinances, codes, rules, and regulations or lawful orders of public authorities. Unless otherwise provided, the Contractor shall make arrangements for such tests, inspections, and

approvals with an independent testing laboratory or entity acceptable to the Owner, or with the appropriate public authority, and shall bear all related costs of tests, inspections, and approvals. The Contractor shall give the Architect timely notice of when and where tests and inspections are to be made so that the Architect may be present for such procedures. The Owner shall bear costs of tests, inspections, or approvals that do not become requirements until after bids are received or negotiations concluded. The Owner shall directly arrange and pay for tests, inspections, or approvals where building codes or applicable laws or regulations so require.

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

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

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

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

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

§ 13.5 Interest

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

ARTICLE 14 TERMINATION OR SUSPENSION OF THE CONTRACT

§ 14.1 Termination by the Contractor

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

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

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

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

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

§ 14.2 Termination by the Owner for Cause

§ 14.2.1 The Owner may terminate the Contract if the Contractor

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

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

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

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

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

§ 14.3 Suspension by the Owner for Convenience

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

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

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

§ 14.4 Termination by the Owner for Convenience

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

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

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

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

ARTICLE 15 CLAIMS AND DISPUTES

§ 15.1 Claims

§ 15.1.1 Definition

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

§ 15.1.2 Time Limits on Claims

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

§ 15.1.3 Notice of Claims

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

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

§ 15.1.4 Continuing Contract Performance

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

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

§ 15.1.5 Claims for Additional Cost

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

§ 15.1.6 Claims for Additional Time

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

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

§ 15.1.7 Waiver of Claims for Consequential Damages

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

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

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

§ 15.2 Initial Decision

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

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

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

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

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

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

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

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

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

§ 15.3 Mediation

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

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

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

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

§ 15.4 Arbitration

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

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

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

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

§ 15.4.4 Consolidation or Joinder

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

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

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

Certification of Document's Authenticity

AIA® Document D401™ – 2003

I, Donald Wirt, Project Manager, hereby certify, to the best of my knowledge, information and belief, that I created the attached final document simultaneously with this certification at 09:23:53 ET on 02/16/2024 under Order No. 4104240625 from AIA Contract Documents software and that in preparing the attached final document I made no changes to the original text of AIA® Document A201™ – 2017, General Conditions of the Contract for Construction, other than changes shown in the attached final document by underscoring added text and striking over deleted text.



(Signed)

Project Manager

(Title)

February 16, 2023

(Dated)

SUPPLEMENTARY GENERAL CONDITIONS

The following supplements modify, change, delete from or add to the “**General Conditions of the Contract for Construction**” **AIA Document A201, 2017 Edition**. Where any article of the General Conditions is modified or any paragraph, subparagraph or clause thereof is modified or deleted by these Supplementary General Conditions, the unaltered provisions of the Article, Paragraph or Subparagraph shall remain in effect.

The General Conditions of the Contract for Construction may also be supplemented elsewhere in the Contract Documents.

ARTICLE 1 - GENERAL PROVISIONS

Subparagraph 1.1.3 – The Work

ADD the following to the end of the first sentence:

[Add:] “including any subcontractor’s and sub-subcontractor’s work and suppliers or any other entity for which Contractor is responsible and whether on or off the site of the Project.”

ADD the following new Subparagraphs:

- 1.1.9 The term “product” includes materials, systems and equipment.
- 1.1.10 The term “provide” includes furnishing and installing a product, complete in place, operating, tested and approved.
- 1.1.11 The term “building code” and the term “code” refer to regulations of governmental agencies having jurisdiction.
- 1.1.12 The terms “approved”, “required” and “as directed” refer to and indicate the work or materials that may be approved, required or directed by Architect acting as the agent of Owner.
- 1.1.13 The term “similar” means in its general sense and not necessarily identical.
- 1.1.14 The terms “shown”, “indicated”, “detailed”, “noted”, “scheduled” and terms of similar import refer to requirements contained in the Contract Documents.
- 1.1.15 The terms “cost,” “expense,” or “fee” mean any amount paid or charged for something.
- 1.1.16 The term “including” also means including but not limited to the particular listing or description.

Paragraph 1.2 - Correlation and Intent of the Contract Documents

Add the following after subparagraph 1.2.1:

If there is any conflict between the provisions of the Contract Documents and any

referenced standard specification, manuals or codes of technical societies, organizations or associations, the language of the Contract Documents will take precedence over that of any standard specification, manual, or codes.

ADD the following new Subparagraphs:

- 1.2.4 Computed dimensions shall take precedence over scale dimensions, and large scale drawings shall take precedence over small scale drawings.
- 1.2.5 Anything shown on the Drawings and not mentioned in the Specifications or mentioned in the Specifications and not shown on the Drawings shall have the same effect as if shown or mentioned respectively in both. Any work shown on one Drawing shall be construed to be shown in all Drawings, and Contractor shall coordinate the Work and Drawings to conform to the requirements of the Contract Documents.
- 1.2.6 In the event of conflict between different provisions in the Contract Documents, the provision calling for the higher quality or greater benefit to Owner shall prevail, unless Owner accepts in writing the provision calling for a lower quality or lesser benefit.
- 1.2.7 If any portion of the Contract Documents shall be in conflict with any other portion, after the application of the rules of interpretation set forth in this Paragraph 1.2, the various documents comprising the Contract Documents shall govern in the order of precedence as herein set forth according to their latest date of execution: (a) Change Orders submitted, processed and approved in accordance with applicable procedure; (b) written amendment to the various agreements (including but not limited to the Agreement) entered into or executed by Owner; (c) the various agreements entered into and executed by Owner, including but not limited to the Agreement (as modified by any Addenda thereto); (d) Addenda; (e) Supplementary (f) General Conditions; (g) Division 1 Specifications; (h) Instructions to Bidders; (i) Advertisement for Bids; (j) Bid Form; and (k) Drawings and Specifications. In the event of an inconsistency between the Specifications and Drawings, the interpretation as determined by Architect shall prevail; as between large scale drawings and small scale drawings, the large scale drawings shall take precedence. Specifications having greater detail or specificity take priority over specifications of lesser detail or specificity and detail takes precedence over general drawings.

Paragraph 1.5 - Ownership and Use of Drawings, Specifications and Other Instruments of Service

ADD the following new Subparagraphs:

- 1.5.3 All reports, plans, specifications and computer files relating to this project (hereinafter the Instruments of Service) are the property of Thompson & Litton. Thompson & Litton retains all common law, statute and other reserved rights including the copyright thereto.
 - 1.5.4 Except as provided in Section 000101, Sub-subparagraph 3.1.4.1, reproduction of the material herein or substantial use without written permission of Thompson & Litton violates the copyright laws of the United States and will be subject to legal prosecution.
-

Paragraph 1.6 – Notice

Subparagraph 1.6.1

DELETE the following from the end of the subparagraph and, in lieu thereof, SUBSTITUTE it as follows:

[*Delete:*] “if a method for electronic transmission is set forth in the Agreement.”

[*Substitute:*] “, and actually received by the individual for which it was intended. In addition, notice to the Contractor may be in the form of meeting minutes.”

ADD the following new sentence to the end of Subparagraph 1.6.1:

[*Add:*] Notice by mail shall be effective three (3) days after deposit in the mail, unless notice is received earlier.

Paragraph 1.7 – Digital Data Use and Transmission

DELETE Paragraph 1.7 in its entirety, and in lieu thereof, replace it with the following:

[*Replace*] “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 transmission, unless otherwise already provided in the Agreement or the Contract Documents.”

Paragraph 1.8 – Building Information Models Use and Reliance

DELETE beginning in the second line “and without having those protocols..... Project Building Information Modeling Protocol Form,”

ARTICLE 2 - OWNER

Paragraph 2.1 - General

Subparagraph 2.1.1

CHANGE the first part of the first sentence to identify Owner as follows:

**The City of Staunton, Virginia
116 W Beverley St
Staunton, VA 24401**

Subparagraph 2.1.1

INSERT at the end of the second sentence “, except as may be provided otherwise in this Agreement.”

Subparagraph 2.1.2

DELETE Subparagraph 2.1.2 in its entirety.

Paragraph 2.2 – Evidence of the Owner’s Financial Arrangements

DELETE Paragraph 2.2, including all subparagraphs, in its entirety.

Paragraph 2.3 Information and Services Required of the Owner

Subparagraph 2.3.3

CHANGE “shall employ” to “may employ” in the first line.

DELETE “as to whom Contractor has no reasonable objection” from the second line.

Subparagraph 2.3.4

DELETE the last sentence in its entirety, and in lieu thereof, SUBSTITUTE the following new sentence:

[*Substitute*] “Contractor shall be responsible to verify the accuracy of the site’s physical characteristics, legal limitations and utility locations and bring to the attention of Owner and Architect any discrepancies suspected or discovered that may affect the Work.”

Subparagraph 2.3.5

INSERT at the beginning of the first sentence: “Upon written request from Contractor,”

Subparagraph 2.3.6

DELETE Subparagraph 2.3.6 in its entirety and, in lieu thereof, SUBSTITUTE the following new Subparagraph:

2.3.6 The Prime Contractor(s) with whom Owner shall enter a contract shall be entitled to receive up to three (3) sets of drawings and specifications without charge.

Paragraph 2.4 - Owner’s Right to Stop the Work

DELETE the word “repeatedly” from the first sentence.

ADD the following to the end of the Subparagraph:

[*Add:*] “This right shall be in addition to and not in restriction of or derogation of Owner’s rights under Article 14 hereof. Owner’s right to stop the Work shall not relieve Contractor of its responsibilities and obligations under or pursuant to the Contract Documents. In the event an order by Owner to stop the Work is determined to be inappropriate, it shall not constitute a breach of Contract by Owner, but rather shall be a suspension of Work for the convenience of Owner.

Paragraph 2.5 - Owner’s Right to Carry Out the Work

INSERT in the first line “fails under any circumstances” after “default or neglect” in the same such sentence.

REVISE the second line of the first sentence from “a ten-day period” to a “a seven-day period” and INSERT “or failure” after the repeated phrases “default or neglect.”

DELETE the second sentence in its entirety and, in lieu thereof, SUBSTITUTE the following new sentence:

In such case, Owner shall have the right to deduct from payments then or thereafter due Contractor, the cost to Owner of correcting such default or neglect or failure, including Owner’s expenses and any fees or costs charged by contractors, consultants, experts, attorneys, Architect or Owner’s Representative in connection with such corrective action.

ADD the following to the end of the Subparagraph:

[Add:] “Nothing contained herein shall obligate Owner to carry out work for the benefit of Contractor.”

[Add:] “This right shall be in addition to and not in restriction of or derogation of Owner’s rights under Article 14 hereof. Owners right to stop the Work shall not relieve Contractor of its responsibilities and obligations under or pursuant to the Contract Documents. [Add:] “Owner shall not be required to comply with the seven-day notice provision stated above, and shall have the right to immediately take any corrective action subject to the remaining provisions of this Paragraph 2.5, where providing such notice would impose risk of substantial disruption to the Project schedule or to the safety of any person or property, as determined in the sole discretion of Owner.”

ARTICLE 3 - CONTRACTOR

Paragraph 3.1 - General

Subparagraph 3.1.1

ADD the following new sentence to the end of the Subparagraph:

[Add:] “It shall be understood that the term “Contractor”, as used throughout the General Conditions, applies to each Contractor entering into a Contract with Owner except where specifically noted otherwise.”

Paragraph 3.2 - Review of Contract Documents and Field Conditions by Contractor

Subparagraph 3.2.2

DELETE the second sentence in its entirety and, in lieu thereof, SUBSTITUTE the following new sentences:

[Substitute:] “Contractor shall not be liable to Owner or Architect for any costs, fees or damage resulting from errors, inconsistencies or omissions in the Contract Documents unless Contractor should have reasonably recognized or suspected such error, inconsistency or omission and failed to report it immediately to Architect. Contractor warrants that Contractor has carefully studied

and reviewed the Contract Documents and that Contractor has reported any errors, inconsistencies or omissions to Architect. Contractor hereby acknowledges and declares that the Contract Documents are full and complete, are sufficient to have enabled Contractor to determine the cost of the Work and to fulfill all of Contractor's obligations under the Contract Documents. If Contractor encounters or suspects an error, inconsistency or omission, Contractor shall immediately submit it to Architect for resolution. If Contractor performs any construction activity knowing or having reason to know or suspect that it involves an error, inconsistency or omission, Contractor shall be responsible for such performance and shall bear the costs for correction. Contractor shall be liable to Owner for all costs and fees by consultants, experts, attorneys or Owner's Representative, and fees and costs for Additional Services of Architect (as defined in the Prime Agreement between Owner and Architect) to the extent that such fees and costs are caused by or arise from any deficient Work or the negligent acts or omissions or failure of Contractor. The Owner is not required to ascertain that the Contract Documents are in accordance with applicable laws, statutes, ordinances, building codes, and rule and regulations, but any nonconformity discovered or suspected by or made known to the Contractor shall be reported promptly to the Architect. The Contractor stipulates and agrees that the Owner has no duty to discover any design errors or omissions in the Drawings, Plans, Specifications and other Construction Documents and has no duty to notify Contractor of same. By entering into the Contract Documents or any agreement with any Architect, Owner does not warrant the adequacy and accuracy of any Drawings, Plans, Specifications or other Construction Documents.

Subparagraph 3.2.4

DELETE Subparagraph 3.2.4 in its entirety.

Paragraph 3.3 - Supervision and Construction Procedures

Subparagraph 3.3.2

ADD the following to the end of the last Subparagraph:

[Add:] "...or claiming by, through or under Contractor and for any damages, losses, costs and expenses resulting from such acts or omissions. If any failure by Contractor to comply with the Contract Documents or to maintain an approved project schedule causes any damage or costs to Owner, then Contractor shall indemnify and hold harmless Owner for any such damage or costs. Such damage or cost to Owner shall include any payment by Owner to others or liability of Owner to others resulting from such failure by Contractor, including but not limited to (1) any payment for liability arising from change orders, claims, or (2) any payment or liability for fees or costs to Owner's Representative, Architect, consultants, experts and attorneys.

Subparagraph 3.3.3

ADD the following new sentences to the end of the Subparagraph:

[Add:] "In the event Contractor discovers or suspects that portions of the Work related to another Prime Contractor's work are not in proper condition to receive subsequent work, Contractor shall notify Architect immediately of such. In the event Contractor fails to so notify Architect immediately of such or otherwise fails to inspect previous Work in accordance herewith, and proceeds, Contractor shall be responsible for any such costs associated therewith.

ADD the following new Subparagraphs:

- 3.3.4 The General Contractor is designated as the Lead Contractor for this Project. Each Sub-Contractor shall coordinate its work with the work of the Lead and other Sub-Contractors. The Lead Contractor is responsible for making all coordination decisions not mutually agreed to by the affected Sub-Contractors. Disputes between the Lead Contractor and one or more Sub-Contractors and disputes between two or more Sub-Contractors pertaining to the creation, application, and modification of the Project Schedule, the furnishing of additional resources to meet the project schedule, job coordination, and all aspects of the coordination, means and methods of construction shall be submitted promptly to the Lead Contractor for a final construction decision. The final construction decision of the Lead Contractor must, at all times, be consistent with the content and intent of the Contract Documents. The final construction decision of the Lead Contractor shall be observed, accepted and fully followed by the Lead Contractor and all Sub-Contractors and their Subcontractors and Sub-subcontractors on the Project, subject only to the commencement of a proceeding pursuant to provisions of Article 15 at the request of the Lead Contractor or other Sub-Contractor. The progress of the Work in accordance with the final construction decision of the Lead Contractor shall not be delayed pending any proceeding pursuant to Article 15. The damage remedy in any Article 15 proceeding or dispute resolution proceeding in favor of the Lead Contractor or other Sub-Contractor shall be the exclusive remedy for disputes between or among Contractors. Contractors, including the Lead Contractor, shall have no right of action against Owner in connection with such disputes.
- 3.3.5 In the event any of the Work is required to be inspected or approved by any governmental authority having jurisdiction, Contractor shall cause such inspection or approval to be scheduled and performed. No inspection performed or failed to be performed shall release Contractor from its obligations to have such work inspected nor shall it be construed as an approval or acceptance of the Work or any part thereof.

Paragraph 3.4 - Labor and Materials

Subparagraph 3.4.1

ADD the following new Sub-subparagraph to Subparagraph 3.4.1:

- 3.4.1.1 Refer to Division 1, Section "Temporary Facilities and Controls", for detailed requirements regarding temporary utilities, services and facilities.

Subparagraph 3.4.2

DELETE Subparagraph 3.4.2 in its entirety, and in lieu thereof, SUBSTITUTE the following new Subparagraph:

- 3.4.2 Refer to Division 1, Section "Substitutions", for additional requirements regarding substitutions.

Subparagraph 3.4.3

ADD the following new sentence to the end of the Subparagraph:

[Add:] “Owner encourages but does not require that laborers and mechanics employed on the Project be residents of the City in which the work is being performed. Contractor shall be licensed in accordance with all applicable requirements of the Commonwealth of Virginia and the City of Staunton. Upon request of Owner, Contractor shall remove from the project any worker who is believed to be incompetent, careless or unsafe or is believed or suspected to put at risk the safety or welfare of any person or of the security of any property. The Contractor acknowledges that there may or will be students and employees of the Owner on or about the location where the Work is being performed and shall take affirmative precautions and institute specific safeguards to protect such persons at all times, including but not limited to the conduct any updating of background checks and use and display of photographic and name identification badges.”

Paragraph 3.5 – Warranty

Subparagraph 3.5.1

ADD to the following to the end of the third sentence.

[Add] “unless Owner accepts in writing such nonconforming Work.”

ADD the following new sentence to the end of the Subparagraph:

[Add:] “Contractor will fully secure and protect both new work and existing conditions during the period of construction which may be susceptible to damage or abuse or risk of loss in any regard.

ADD the following new Subparagraphs:

- 3.5.3 Contractor’s warranty period shall be 1 year from the date of Substantial Completion of the Work and/or phase of the Work, except for specific items of work or equipment for which the warranty period is specified as a longer period elsewhere in the Contract Documents. During the warranty period, Contractor shall promptly correct all defects which are due to defective materials or workmanship at no cost to Owner. Such correction shall extend to any other Work damaged or compromised by such correction.
- 3.5.4 At the end of the 11 month period from Substantial Completion from the commencement of the warranty period, Contractor shall schedule a walk-through inspection with Owner and Architect to identify any warranty items to be corrected under such warranty period.
- 3.5.5 Contractor shall be responsible for timely initiating and scheduling the eleven (11) month walk-through inspection contemplated in this warranty Section.

Paragraph 3.7 - Permits, Fees, Notices and Compliance with Laws

Subparagraph 3.7.1

DELETE Subparagraph 3.7.1 in its entirety and, in lieu thereof, SUBSTITUTE the following new Subparagraph:

3.7.1 Contractor for General Construction shall secure the general building permit for the Project. Fees for this permit shall be paid directly by Owner.

Owner, through Architect, will submit drawings and specifications to the appropriate public authorities having jurisdiction, for approval. Owner will pay all fees for plan checking.

Subparagraph 3.7.3

INSERT “suspecting” after “knowing” in the first line.

ADD the following new sentence to the end of Subparagraph 3.7.3:

[Add:] “Owner shall not be responsible for any inspection fees due to re-inspection of rejected work due to faulty or defective workmanship of Contractor, or scheduling error by Contractor.

Revise subparagraph 3.7.4 as follows:

Paragraph 3.7.4 – Concealed or Unknown Conditions

In the first sentence, strike “14” and substitute “3” before “days.”

Paragraph 3.8 - Allowances

DELETE Paragraph 3.8 in its entirety. No cash allowances are permitted.

Paragraph 3.9 – Superintendent

Paragraph 3.10 - Contractor’s Construction and Submittal Schedules

ADD new Sub-subparagraph 3.10.1.1 as follows:

Replace subparagraph 3.10.1 with the following:

3.10.1.A. A construction schedule shall be prepared and submitted for the Owner's and Architect's review. The schedule shall not exceed the Contract Times established in the Contract Documents and shall provide for prompt and efficient execution of the Work. The schedule shall show the sequence and interdependence of all activities required for complete performance of the Contractor's Work. The schedule shall provide a graphic representation of all activities and events that will occur in the prosecution of the Work and set forth all critical dates that must be met to ensure timely and orderly completion of the Work within the Contract Times prescribed in the Contract Documents. The Contractor may show early completion of the Work on the schedule, should it so elect, but the Contractor shall have no claim for delay damages or

constructive acceleration should any delay, whatever the cause, preclude the Contractor from finishing the Project at any point prior to the completion date set forth in the Contract Documents. Upon receipt, the Owner and Architect shall review the schedule and offer any comments they may have. Such review shall be for information purposes only and shall not constitute endorsement of any errors or omissions that may appear in the schedule or its reasonableness.

- 3.10.1.B The Contractor shall update the schedule each month to reflect the current status of the Project. The updates shall show percent completion including actual start and finish dates and remaining duration for all current activities. The updated schedule shall be submitted with the Contractor's Application for Payment. The submittal of the revised schedule shall be a conditional precedent to the Owner's obligation to pay the Contractor any monies due on the pending Application for Payment.

Add the following subparagraphs to Article 3.10:

3.10.4 In the event that the Contractor should ever determine during the course of the Project that its prosecution of the Work has fallen behind the current schedule, it shall prepare a recovery schedule to permit completion of the Project within the Contract Times. The Contractor shall devote sufficient labor, materials, and equipment to comply with the recovery schedule, including, if necessary, the employment of additional manpower and the scheduling of additional shifts, overtime, and weekend Work, all at the Contractor's sole expense.

3.10.5 In the event that the Project is delayed beyond the Contract Times, the Contractor will be obligated to pay the Owner, in addition to any liquidated damages called for in the Contract Documents or any delay damages permitted pursuant thereto, a sum equal to the Owner's obligation to pay the Architect for providing additional Construction Contract Administration services beyond the Contract Times set forth in the Contract Documents.

Paragraph 3.11 - Documents and Samples at the Site

DELETE the last sentence of Paragraph 3.11 and, in lieu thereof, SUBSTITUTE the following new sentence:

[*Substitute:*] "These shall be in electronic form or paper copy, available to Architect and Owner, and shall be delivered to Owner, in good condition, upon completion of the Work, and before final payment is made."

ADD new Subparagraph 3.12.11 as follows:

- 3.12.11 Refer to Division 1, Section "Submittals", for further requirements regarding shop drawings, product data and samples.

Paragraph 3.13 Use of Site Subparagraph 3.13.1

ADD new Subparagraph 3.13.1 as follows:

- 3.13.1 Control or Reference Points: Immediately upon occupancy of the project site for the purpose of commencement of the Work, Contractor shall locate, including but not limited to, all general control or reference points, benchmarks, etc., and take such action as may be necessary to prevent damage or destruction of such points. In the event Contractor fails to do so, Contractor shall be liable for all such costs, including but not limited to professional fees and costs, necessary to re-establish such control or reference points.

Paragraph 3.14 - Cutting and Patching

DELETE Paragraph 3.14, including all subparagraphs, in its entirety, and in lieu thereof, SUBSTITUTE it with the following new Paragraph:

- 3.14 Refer to Division 1, Section "Cutting and Patching", for requirements regarding cutting and patching.

Paragraph 3.15 Cleaning Up

Subparagraph 3.15.1

ADD new Subparagraph 3.15.3 as follows:

- 3.15.3 Refer to Division 1, Section "Contract Closeout", for further requirements regarding cleaning up.

Paragraph 3.18 Indemnification

Subparagraph 3.18.1

ADD "defend" after the word "indemnify" and "of any kind" after the word "expenses" in the first sentence.

DELETE "negligent" before the phrase "acts or omissions" in the first sentence.

DELETE "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)" from the first sentence.

ADD the following new Paragraphs as follows:

- 3.19 Contractor shall indemnify and hold harmless Owner for any additional fee, cost or expense (beyond a base fee) charged to Owner by Architect or other project consultant pursuant to its own agreement with Owner to the extent such additional fee, cost or expense is caused by Contractor's acts or omissions.
- 3.20 Owner may deduct amounts owed by Contractor pursuant to Paragraph 3.18 or 3.19 from payments otherwise due to Contractor, and upon request of Owner shall provide Contractor a copy of the written agreement regarding such additional fee, cost or expense payment.

ARTICLE 4 - ARCHITECT

Paragraph 4.1 - General

Subparagraph 4.1.2

DELETE the word "Contractor" from the second line.

Paragraph 4.2 – Administration of the Contract

Subparagraph 4.2.3

INSERT "or suspected" before "deviations" and INSERT "or suspected" after "observed" in the first sentence.

Subparagraph 4.2.4

DELETE the first and second sentences in their entirety and, in lieu thereof, SUBSTITUTE the following:

[*Substitute:*] "Owner and Contractor shall endeavor to communicate with each other through Architect about matters arising out of or relating to the Contract."

Add the following subparagraph to Article 4.2.4:

4.2.4.1 At the Pre-Construction Conference, the Architect will designate his contact person for the duration of the project. The Contractor shall always communicate in writing with the Architect's designated representative. From time to time, the Architect may designate members of its staff to correspond with the Contractor; in such case, the Contractor shall respond directly with that individual. If the Architect must change its contact person, it will advise the Contractor in writing who the new contact is. The purpose of this requirement is to assist the Contractor in maintaining continuity throughout the life of the project.

Subparagraph 4.2.5

ADD to the end of the subparagraph, the following:

[*Add:*] ", with Certificates for Payment being subject to Owner approval."

Subparagraph 4.2.6

ADD the following to the end of the first sentence.

[*Add:*] "and shall do so unless Owner accepts, in writing, such nonconforming work"

Subparagraph 4.2.9

ADD after "Certificates of Substantial Completion" AND after "a final Certificate for Payment", both in the first sentence, the following:

[Add:] "subject to Owner approval,"

ARTICLE 5 – SUBCONTRACTORS

Paragraph 5.2 - Award of Subcontracts and Other Contracts for Portions of the Work

Subparagraph 5.2.1

DELETE the first sentence of Subparagraph 5.2.1 and, in lieu thereof, SUBSTITUTE the following new sentence:

[Substitute:] "Within fourteen (14) days after the award of the Contract, Contractor shall notify Owner and Architect, in writing, the names of the persons or entities, including those who are to furnish materials or equipment fabricated to a special design, proposed for each of the principal portions of the Work.

Subparagraph 5.2.3

DELETE the second and third sentences in their entirety and, in lieu thereof, SUBSTITUTE the following:

[Substitute:] "In the event of any such objection, Contractor shall not contract with the proposed person or entity, and there shall be no increase in the Contract Sum or Contract Time."

ADD new Paragraph 5.5 as follows:

Paragraph 5.5 - Payment to Subcontractors

5.5.1 Contractor shall pay each subcontractor, upon receipt of payment from Owner, an amount equal to the percentage of completion allowed to Contractor on account of such subcontractor's Work, less the percentage retained from payments to Contractor; PROVIDED, however, that Contractor shall make no payment to any subcontractor unless the subcontractor shall execute a waiver of liens in favor of Owner and Contractor reflecting the amount of each such payment. Contractor shall also require each subcontractor to make similar payments to sub-subcontractors. All such payments shall be paid within the time limits required by the Commonwealth of Virginia - VPPA.

5.5.2 If Owner fails to approve an Application for Payment for a cause which Owner and Architect determine is the fault of Contractor and not the fault of a particular subcontractor, or if Contractor fails to make payment which is properly due to a particular subcontractor, Owner may pay such subcontractor directly, less the amount to be retained under its Subcontract. Any amount so paid by Owner shall be repaid to Owner by Contractor. Owner shall have no obligation to pay or to see to the payment of any monies to any subcontractor. Nothing contained in Paragraph 5.5 shall be deemed to create any contractual relationship between Owner and any subcontractor or to create any rights in any subcontractor against Owner. Contractor shall promptly advise Owner of any claim or demand by a subcontractor claiming that any amount is due to such

subcontractor or claiming any default by Contractor in any of its obligations to such subcontractor.

ARTICLE 6 – CONSTRUCTION BY OWNER OR BY SEPARATE CONTRACTORS

Paragraph 6.1 – Owners Right to Perform Construction and to Award Separate Contracts

DELETE Subparagraph 6.1.3 in its entirety and, in lieu thereof, SUBSTITUTE the following new Subparagraph:

6.1.3 It is the sole duty and responsibility of the Contractor to plan, direct, perform and coordinate its Work as to cause no delay, hindrance, loss, injury, or similar damage to subcontractors or material suppliers. In the event the Contractor causes any delay, hindrance, loss, injury, or similar damage to subcontractors or material suppliers, the aggrieved subcontractors or material suppliers may pursue recovery of money damages against the Contractor pursuant to Article 15. There shall be no claim asserted against the Owner or the Architect, or their respective directors, employees or agents for money damages based on the alleged acts or omissions with respect to coordinating, expediting or directing the Work. If the Contractor prosecutes a claim against the Owner or the Architect for money damages or for an alleged failure to coordinate, expedite or direct the Work, then the Contractor shall indemnify and hold harmless the Owner and the Architect against any and all costs, losses or expenses, including consulting, expert, counsel fees, that the Owner or the Architect incur in responding to any such claim plus 10% interest per annum on all such costs from the date of occurrence of such costs up to the date of payment.

Paragraph 6.2 – Mutual Responsibility

Subparagraph 6.2.2

INSERT “suspected” before “apparent” in the first, second, and third sentences.

Subparagraph 6.2.3

DELETE the second sentence of Subparagraph 6.2.3 in its entirety and, in lieu thereof, SUBSTITUTE the following new sentence:

[Substitute:] “Costs caused by delays, or by improperly timed activities or defective construction shall be borne by the responsible party therefore. Contractor shall indemnify Owner for any costs, damages or payments Owner incurs (including any payments to other contractors, Architect, legal counsel, agents or consultants) arising from or relating to Work by Contractor that is not in compliance with the Contract Documents. Owner may withhold payments otherwise due to Contractor in the event of such indemnification duty.

ADD the following new sentence to the end of Subparagraph 6.2.4:

[Add:] “Contractor agrees to indemnify and hold Owner and Architect harmless for any claims or damages brought by a separate contractor arising out of the actions or omissions of Contractor,

its subcontractors or suppliers in performing their work under the Contract Documents.

ARTICLE 7 - CHANGES IN THE WORK

Paragraph 7.1 – General

Subparagraph 7.1.1

INSERT “and applicable law” after the word “Documents” at the end of the sentence.

Subparagraph 7.1.2

REVISE the first part of the first sentence of Subparagraph 7.1.2 to read as follows:

[Revise:] “A Change Order shall be based upon agreement between Owner and Contractor; a Construction Change Directive”

Subparagraph 7.1.3

DELETE Subparagraph 7.1.3 in its entirety and, in lieu thereof, SUBSTITUTE the following new Subparagraph:

7.1.3 Before any Change Order is prepared, Contractor shall submit to Architect, in writing, an itemized breakdown of the cost of the proposed Change in the Work. The term “cost” shall be interpreted to mean and include the actual, verified incremental cost of the following:

1. Labor, including foremen.
2. Materials at cost plus applicable taxes entering permanently into the Work.
3. Rental cost of construction plant and equipment, whether rented from Contractor or others.
4. Power and consumable supplies for the operation of power equipment.
5. Liability insurance and bonds.
6. Social security, old age and unemployment contributions.

When determining the labor costs of Work by Change Order, Contractor shall use the actual wage paid to the personnel performing the Work, and if requested by Owner or Architect, at any time during or after the project, Contractor shall provide certified payroll records necessary to evidence those labor costs. Using the actual wage paid to the personnel performing the Work, Contractor shall be entitled to fifteen percent (15%) of the total cost of the above for overhead, profit, supervision and miscellaneous expenses if they perform the Work with their own forces, or to the Subcontractor who performs the Work. In the case where the Work is performed by a subcontractor, Contractor may

add five percent (5%) to the Subcontractor's total amount as Contractor's commission. Where Change Orders include both increases and decreases in the Contract Amount, the above fifteen percent (15%) will be allowed on the net increase only.

Add the following subparagraphs to Article 7.1:

- 7.1.4 "Changes in the Work" of the General Conditions addresses how these changes are to be completed. Any change which has been requested through the Owner or its agents, including the Architect, will be issued through the Architect by a written "Architect's Supplemental Instructions" or "Work Changes Proposal Request". Should the contractor request a minor change in the contract, a written "Architect's Supplemental Instructions" will be authorized by the Architect. If the Contractor believes that additional compensation and/or time is required, it should not sign this form. In this case, it should immediately notify the Architect in writing of his decision, submitting his proposal for the changes in the Work. If the above situation occurs, the Architect may, at this time, send the Contractor a "Work Changes Proposal Request".
- 7.1.5 If the Architect is reasonably certain that his instructions to the Contractor will require additional money and/or time for completion, it will initially send his instructions to the Contractor on the "Work Changes Proposal Request" form. The Contractor's proposal shall state its itemized estimate for any requested additional money and/or time. This written proposal should precede any Work that may be done by the Contractor as a result of the "Architect's Supplemental Instructions" or "Work Changes Proposal Request". Should the Contractor unilaterally proceed with the Work as requested by these forms without having advised the Architect and Owner in writing of his request for a change in price or time, it may be denied such increase. When the Architect receives the Contractor's proposal for a change in contract price and/or extension of time, the Architect will then prepare a written Change Order to cover this increase. The Contractor should not proceed with additional Work until the written change order has been approved by all involved parties or until it has the Owner's written authorization for a construction change. The Owner will receive a copy of all "Architect's Supplemental Instructions" and "Work Changes Proposal Request" documents. Should there be any disagreement by the Owner, it will promptly notify all parties concerned.
- 7.1.5 If a situation occurs which requires additional Work to be performed immediately, the Owner will issue a "Construction Change Directive" in accordance with the General Conditions. The "Construction Change Directive" will be prepared and signed by the Architect and will be effective after it has been signed by the Owner. After it has been executed by the Contractor, a Change Order shall be prepared by the Architect.

Paragraph 7.2 - Change Orders

Subparagraph 7.2.1

DELETE Subparagraph 7.2.1 in its entirety and, in lieu thereof, SUBSTITUTE the following new Subparagraph:

- 7.2.1 A Change Order is a written instrument prepared by Architect and signed by Owner, Contractor and Architect. A Change Order is the only method by which the Contract Sum and/or the Contract Time may be adjusted. A Change Order shall provide for the following: (1) a change in the Work, if any; (2) the amount of the adjustment in the Contract Sum, if any; and (3) the extent of the adjustment in the Contract Time, if any.

ADD the following new Subparagraphs:

- 7.2.2 Contractor is responsible for submitting verified accurate cost and pricing data to support its proposals for change orders and other Contract price adjustments under the Contract Documents. Contractor shall certify in writing that to the best of its knowledge and belief, the cost and pricing data submitted is accurate, complete, current and in accordance with the terms of the Contract Documents with respect to pricing of change orders. Contractor shall also certify in writing that he has made reasonable good faith inquiries to appropriate individuals within its organization to confirm that the data submitted is net of all discounts, rebates, savings, and other reductions and is accurate, complete and current. The above-described certification shall be required for all change order requests with a positive or negative value greater than \$1,000.00. If it is later determined by audit or by other means that the cost and pricing data submitted is not net of all discounts, rebates, savings, and other reductions, inaccurate, incomplete, not current or not in compliance with the terms of the Contract Documents regarding the pricing of change orders, then an appropriate contract price reduction shall be made.
- 7.2.3 Contractor shall perform the work of Change Orders only with personnel appropriate for the tasks performed. Should Contractor use overqualified personnel, Contractor shall only be entitled to payment for the work at the wage rate of the appropriate personnel, plus the applicable multipliers noted in 7.1.3.
- 7.2.4 Any Contractor creating the need for Additional Services by Architect, with respect to a Change Order, shall pay all costs associated with such Additional Services, and Architect shall prepare and present to Owner for approval, a Change Order or Construction Change Directive regarding such costs.

Paragraph 7.3 – Construction Change Directives

Subparagraph 7.3.2

ADD new Sub-subparagraph 7.3.2.1 as follows:

- 7.3.2.1 Any Contractor creating the need for Additional Services by Architect, with respect to a Construction Change Directive, shall pay all costs associated with such Additional Services, and Architect shall prepare and present to Owner for approval, a Change Order or Construction Change Directive regarding such costs.

ARTICLE 8 – TIME

Paragraph 8.1 – Definitions

Subparagraph 8.1.3

INSERT after “Architect”, the following:

[*Insert:*] “and approved by Owner”

Subparagraph 8.2.2

INSERT “and submission to the Owner of certificates” after “date” in the sentence.

Paragraph 8.3 – Delays and Extensions of Time

Subparagraph 8.3.1

DELETE (3) in its entirety and, in lieu thereof, SUBSTITUTE the following:

[*Substitute:*] “(3) by fire or adverse weather conditions documented in accordance with Section 15.1.6.”

DELETE (4) in its entirety and, in lieu thereof, SUBSTITUTE the following:

[*Substitute:*] “(4) by delay authorized by Owner pending a proceeding pursuant to Article 15; or”

ADD the following new sentences to the end of Subparagraph 8.3.1:

[*Add:*] “All claims for extension of time shall be made, in writing, to Architect and Owner no more than seven (7) days after the occurrence of the event causing the delay. If an extension of the Contract Time for a contractor is granted due to neglect, misconduct or failure to comply with the Contract Documents by another contractor and such delay causes any contractor to miss a Milestone in the Project Schedule, then liquidated damages for delay pursuant to Paragraph 8.4, caused by the delay, shall be applied against Contractor responsible for having caused such extension of the Contract Time. A contractor causing Project delay shall be liable for and reimburse Owner for all costs, including any additional fees to Architect resulting from such delay.

Subparagraph 8.3.3

DELETE Subparagraph 8.3.3 in its entirety and, in lieu thereof, SUBSTITUTE the following:

8.3.3 Contractor recognizes that delays, acceleration or hindrances to the Work may occur. To the fullest extent permitted by law, no claim or litigation for increased costs, charges, expenses or damages of any kind shall be filed by Contractor against Owner, Architect or Owner’s Representative (or against any of their respective employees or agents) for any delays, acceleration, hindrances, or sequencing of work due to any cause whatsoever, notwithstanding whether such delays are caused by factors within or outside Contractor’s control. Contractor’s sole remedy for delays, acceleration, hindrances or sequencing of work (except against a responsible contractor pursuant to subparagraphs 3.3.4 and 6.1.3) shall be an extension of the Contract Time pursuant to this Paragraph 8.3. Should Contractor file any claim or litigation for money damages against Owner, Architect or Owner’s Representative (including their employees or agents) contrary to this provision, such contractor shall pay all costs imposed or permitted by law to be recovered, including as allowed indemnification for any costs incurred as to such claim and all fees by

consultants, experts, and attorneys, plus 10% interest per annum on all such costs from the date of occurrence of such costs up to the date of payment.

ADD new Paragraph 8.4 as follows:

Paragraph 8.4 – Liquidated Damages for Delays

- 8.4.1 Owner and Contractor stipulate that delay by the Contractor in completion would have significant adverse consequences for the Project; that, however, the actual damages to Owner from such delay are uncertain and would be impossible and not susceptible to reasonable determination; and that liquidated damages of such failure by Contractor to perform in a timely manner are a reasonable way and not a penalty to address such adverse consequences. Contractor also stipulates that it shall not challenge, either directly or indirectly, this liquidated damages provision. Owner, therefore, may require Contractor to pay liquidated damages of \$100 per day for the Contractor's failure to perform timely in strict accordance with the Contract. **The amount of Liquidated Damages shall be \$100 per day, beyond Substantial Completion.**
- 8.4.2 If, during the course of Contractor's performance of the Work, Contractor shall fail to complete the Work, or portions thereof, in accordance with Specific Dates or the Contract Time, Owner may retain the amount of liquidated damages for which Contractor shall be liable to Owner under the Contract Documents, from amounts which become payable or are otherwise certified as payable to Contractor under the Contract Documents.
- 8.4.3 In the event that the Work must be conducted beyond the normal working hours specified or if the Project is not completed within the specified duration, Contractor shall indemnify Owner for any costs, damages or payments incurred by Owner, including payments to the Owner's Representative, Architect, consultants, experts, or legal counsel.
- 8.4.4 If Contractor files any claim or litigation challenging an assessment of liquidated damages, or the daily or total amount of liquidated damages assessed, and does not prevail completely in such challenge, Contractor shall be liable to Owner for all costs incurred by Owner in defending against the challenge, including all fees and costs of the attorneys, experts, architects, and other consultants, and all costs related to the time of the Owner's Representative, Owner's staff and administrators based on the applicable compensation rates.

ARTICLE 9 - PAYMENTS AND COMPLETION

Paragraph 9.1 Contract Sum

Subparagraph 9.1.2

ADD the following new Sub-subparagraphs:

- 9.1.2.1 If quantities originally contemplated are materially changed so that application of a unit price will cause a substantial inequity to Owner the Owner reserves the right to equitably adjust the Unit Price or to require that the work be performed on a time and material basis.

Paragraph 9.2 – Schedule of Values

ADD new Subparagraph 9.2.1 as follows:

- 9.2.1 Refer to Division 1 Section, “Applications for Payment” for requirements regarding the schedule of values.

Paragraph 9.3 - Applications for Payment

Subparagraph 9.3.1

DELETE Subparagraph 9.3.1 in its entirety and, in lieu thereof, SUBSTITUTE the following new Subparagraph:

- 9.3.1 At least fifteen (15) days before the date established for each progress payment, Contractor shall submit to Architect an itemized Application for Payment for Work completed in accordance with the Contract Documents. Such application shall be notarized and supported by such data substantiating Contractor’s right to payment as Owner or Architect may require, such as copies of requisitions, and releases and waivers of liens from subcontractors and suppliers and reflecting retainage.

Notwithstanding the language in §9.10.5 or any other section hereof, before Owner shall have any obligation to release any payments for Work completed to Contractor, Contractor shall deliver an executed and notarized "Partial Waiver and Release of Mechanics Lien Claims" in the form provided. The partial waiver of liens shall waive Contractor's right to file a lien against the Property or Owner for an amount equal to the payment received by Contractor at that time.

Contractor shall obtain and post a bond guaranteeing payment for labor and materials provided by subcontractors in an amount, form and a surety acceptable to Owner and in compliance with applicable law.

Contractor hereby agrees that it will defend, indemnify and hold harmless Owner from and against any subcontractor's labor or materials claims, mechanics' lien or any other claim or proceeding filed by any subcontractor by reason of Contractor's failure to pay the Subcontractor any amount owed to such Subcontractor. Although this Project is a public entity project and not subject to the assertion of liens under applicable law, Contractor shall prevent the filing of any mechanics' lien, or should a lien be filed, Contractor shall undertake any and all action necessary to remove said lien or cloud on title. Any failure of Contractor in any of its obligations in this § 9.3.1 shall constitute a material breach of this Contract. Furthermore, Contractor shall be obligated to pay Owner all of Owner's costs incurred in defending or removing any such mechanics' lien whether filed by Contractor or any subcontractor. This shall include payment of all of Owner's attorney's fees, whether incurred in removing any cloud or challenging any mechanics' lien claim filed by Contractor or any subcontractor, or in enforcing Contractor's obligations hereunder.

Owner shall retain five percent (5%) of all amounts due Contractor until the Work is substantially complete and the punch list is complete and deemed satisfactory by the Architect and Owner's Representative. The retained percentage will be paid with the final Payment or as otherwise provided hereafter. In the event a dispute arises between Owner and Contractor, which dispute is based upon increased costs claimed by Contractor occasioned by damages or other actions of another contractor, additional retainage, in the sum of one and one half times the amount of any possible liability, may be withheld until such time as a final resolution is agreed to by all parties directly or indirectly involved, unless Contractor causing the additional claim furnishes an additional bond satisfactory to Owner to indemnify Owner against the claim.

The full Contract retainage may be reinstated at any time if the manner of completion of the Work and its progress do not remain satisfactory to Owner or Architect or if Surety withholds its consent or for other good and sufficient reasons.

ADD new Sub-subparagraph 9.3.1.3 as follows:

- 9.3.1.3 Refer to Division 1 Section "Applications for Payment" for additional requirements regarding applications for payment.

Add the following subparagraphs to Article 9.3:

- 9.3.3.1 The Contractor shall submit at the prescribed time once a month a minimum of three copies of the Application for Payment. The application forms indicated herein shall be used. The Contractor shall prepare these applications in strict conformance with the Contract Documents. All applications will be completed in their entirety and in a legible manner, including all appropriate signatures. Applications with changes or corrections in handwriting may not be approved and may be rejected by the Architect and the Owner. The applications shall not include any additional Work unless this Work has been included in the Contract by approved Change Orders (including all approving agencies). Should any corrections be necessary as a result of discrepancies from a previous payment, an adequate explanation in writing shall be attached to each Application for Payment.
- 9.3.3.2 The Architect will work closely with the Contractor and his agents during the first and second Applications for Payment. The Architect will advise the Contractor of any errors in the application. It shall be the responsibility of the Contractor to make any and all corrections.
- 9.3.3.3 The Contractor shall submit as part of his monthly application for payment a sworn Contractor's Affidavit of Payment of Debts & Claims (AIA G706) attesting that it has paid all subcontractors and suppliers of labor and materials all sums due to date relative to this particular project in addition to the Payment Application Checklist and any supporting documentation required.

Paragraph 9.5 - Decisions to Withhold Certification

Subparagraph 9.5.1

DELETE the first sentence of Subparagraph 9.5.1 and, in lieu thereof, SUBSTITUTE it with the following:

[*Substitute:*] "Architect shall not certify payment and shall withhold a Certificate for Payment in whole or in part to the extent necessary to protect Owner."

REVISE the following Sub-subparagraphs as follows:

- 9.5.1.7 DELETE the word "repeated".

ADD the following new Sub-subparagraphs:

- 9.5.1.8 Unsatisfactory prosecution of the Work in strict accordance with the Contract Documents.
- 9.5.1.9 Failure to comply with any statute, ordinance regulation or other legal requirement.
- 9.5.1.10 Failure to submit progress schedule updates as required by the Contract Documents.

9.5.1.11 Failure to submit wage certification as required by the Contract Documents.

9.5.1.12 Failure to submit a Schedule of Values that is acceptable to Architect.

Paragraph 9.6 – Progress Payments

Subparagraph 9.6.1

ADD “and Owner has approved” AFTER “the Architect has issued,” AND DELETE “and shall so notify the Architect.”

Subparagraph 9.6.7

DELETE Subparagraph 9.6.7 in its entirety.

Paragraph 9.7

INSERT “written” before “notice” (first sentence, fourth line).

Paragraph 9.8 – Substantial Completion

Subparagraph 9.8.1

DELETE Subparagraph 9.8.1 in its entirety and, in lieu thereof, SUBSTITUTE it with the following:

9.8.1 Substantial Completion of Project shall be deemed to occur when Architect determines and Owner approves that the Work, or designated phase thereof, is sufficiently complete in accordance with the Contract Documents so Owner can occupy and utilize the Work for its intended use, and in addition, all requirements of the Contract Documents for Substantial Completion have been fulfilled. Substantial Completion shall not have occurred unless all systems are operational, all systems have been tested and passed inspection, all facility inspections have been conducted and passed, all certifications have been posted, all personnel instruction is complete, all required finishes are in place, and any remaining work will not hamper or impair or compromise operations.

Subparagraph 9.8.2

DELETE the words “prior to final payment.” from the third line and, in lieu thereof, SUBSTITUTE the following:

[*Substitute:*] “within 30 days of the date of Substantial Completion.”

ADD new Sub-subparagraph 9.8.2.1 as follows:

9.8.2.1 Definition: Contractor’s comprehensive list of items to be completed or corrected shall be referred to as the “Punch List.” The Punch List shall be prepared by Contractor on the form provided in Division 1 Section “Contract Closeout”, or in an electronic format acceptable to Architect, (i.e., Bluebeam, PlanGrid, etc.,)

Subparagraph 9.8.5

ADD new Sub-subparagraph 9.8.5.1 as follows:

- 9.8.5.1 Owner's retainage upon Substantial Completion shall be the greater of (a) 5% of the Contract Sum adjusted by Change Orders, or (b) the amount necessary to protect Owner's interests, a minimum of 150% of Architect's estimated cost to complete or correct Work at the time of Substantial Completion.

Add the following subparagraph to Article 9.8:

- 9.8.6 When Contractor considers the entire Work ready for its intended use, Contractor shall, in writing to Owner and Architect, certify that the entire Work is substantially complete and request that Architect issue a Certificate of Substantial Completion. Within a reasonable time thereafter, Owner, Contractor, and Architect shall make an inspection of the Work to determine the status of completion.

Paragraph 9.10 - Final Completion and Final Payment

Subparagraph 9.10.1

INSERT "written" before the word "notice" in the first sentence.

Subparagraph 9.10.2

ADD after the words "shall become due until" in the first sentence, "Owner approves such payment and"

ADD new Subsections (7) and (8) to the end of the first sentence:

[Add:] "(7) Final as-built prints of record drawings marked by Contractor with record information as set forth in the Contract Documents, and (8) A final, unconditional sworn statement from Contractor duly executed and acknowledged showing all subcontractors to be fully paid and similar, final unconditional sworn statements from subcontractors and, when appropriate, from sub-subcontractors.

Subparagraph 9.10.3

INSERT "any" before "Claims" (last word in the sentence).

Subparagraph 9.10.4

ADD the following new Sub-subparagraphs:

- 9.10.4.5 Latent failures of Contractor to comply with the requirements of the Contract Documents.
-

9.10.4.6 Architect's fees resulting from re-inspections due to Contractor's failure to satisfactorily, fully and finally complete the Work or legal and accounting costs and expenses arising therefrom.

9.10.4.7 Architectural fees for services (60) days after the date of Substantial Completion shall be borne by the responsible contractor.

ARTICLE 10 - PROTECTION OF PERSONS AND PROPERTY

Paragraph 10.2 - Safety of Persons and Property

Subparagraph 10.2.1

INSERT at the beginning of the sentence the following: "In addition to the obligations of the Contractor specified in § 3.4.3, the"

Subparagraph 10.2.5

DELETE "(other than damage or loss insured under property insurance required by the Contract Documents)"

Revise subparagraph 10.2.8 as follows:

In the third line of subparagraph 10.2.8, change "not exceeding 21 days" to "not exceeding 10 days" after discovery.

Subparagraph 10.2.8

INSERT "written" before "notice" in the first sentence.

ADD new Subparagraph 10.2.9 as follows:

10.2.9 Contractor shall immediately report in writing to Owner and Architect all accidents, other than minor accidents for which no medical treatment is required, arising out of, or in connection with the Work which cause death, personal injury or property damage, giving full details and statements of any witnesses whether or not Owner has actual knowledge of the accident. In addition, if death or serious personal injuries or serious damage are caused, the accident shall be reported immediately by telephone or messenger to Owner and Architect.

Subparagraph 10.3.1

INSERT "written" after "Architect" at the end of the second sentence.

Subparagraph 10.3.3

DELETE entire subparagraph.

ARTICLE 11 - INSURANCE AND BONDS

Paragraph 11.1 – Contractor’s Insurance and Bonds

AMPLIFY Paragraph 11.1 – Contractor’s Liability Insurance, by ADDING the following:

[Add:] During the term of the Contract, Contractor and each Subcontractor shall, as a minimum, and at their own cost and expense, maintain the following insurances in a company or companies properly licensed in the Commonwealth of Virginia.

1. The contractor will maintain a general liability policy with \$2,000,000 combined single limits, with \$4,000,000 in aggregate. Coverage is to be on an occurrence basis with an insurer licensed to conduct business in the Commonwealth of Virginia. The general liability insurance shall also include the broad form property damage endorsement, in addition to coverages for explosion, collapse, and underground hazards. The insurer must have an A. M. Best rating of A- or better. The insurer must list the Owner and Architect as an additional insured. The endorsement must be issued by the insurance company. A notation on the certificate of insurance is not sufficient.
2. The contractor will maintain workers’ compensation coverage in compliance with the laws of the Commonwealth of Virginia. The coverage must have statutory limits and be with an insurer licensed to conduct business in the Commonwealth of Virginia. The insurer must have an A. M. Best rating of A- or better. As an alternative, it is acceptable for the contractor to be insured by a group self-insurance association that is licensed by the Virginia Bureau of Insurance. The contractor will also carry employers liability insurance with a limit of at least \$100,000 bodily injury by accident/\$500,000 bodily injury by disease policy limit/\$100,000 bodily injury by disease each employee.
3. The contractor will maintain automobile liability insurance with limits of at least \$1,000,000. The coverage is to be written with a symbol “1”. The insurer must be licensed to conduct business in the Commonwealth of Virginia. The insurer must have an A. M. Best rating of A- or better.
4. The contractor will maintain professional liability insurance with a limit of at least \$1,000,000. It is preferred that the coverage be on an occurrence basis. If the policy is on a claims made basis, this should be noted. If the contractor has professional liability insurance on a claims made basis, agreement must be made that coverage will be maintained for at least three years beyond the expiration date of the policy in force at the time of this contract. Coverage is to be with a company licensed to conduct business in the Commonwealth of Virginia and have an A. M. Best rating of A- or better. The Owner and Architect should be listed as an additional insured on the policy. The endorsement must be issued by the insurance company. A notation on the certificate of insurance is not sufficient. (NOTE: This is only needed when professional services are being conducted by the contractor. For example if the contractor is providing professional advice or design work, the professional liability coverage should be required.)

5. The contractor will maintain a surety bond in an amount not less than the total amount payable to the contractor for the terms of this contract. The bond will be issued by a company licensed to issue surety bonds in the Commonwealth of Virginia and has an A. M, Best rating of A- or better.

With all policies listed above, the insurer or agent of the insurer must issue a certificate of insurance to show evidence of coverage. All wording limiting the insurer responsibility to notify the Owner and Architect of any cancellation or non-renewal of the coverage must be removed.

Subparagraph 11.1.2

ADD the following new sentence to the end of Subparagraph 11.1.2:

[Add:] Where Owner's and Contractor's/Subcontractor's policies each apply, Contractor's/Subcontractor's policies shall be considered primary.

Add the following subparagraph to Article 12.2:

- 12.2.6 Any material which has been inspected by the Architect, or the Owner, whether the material has been stored or has been incorporated in the Work of the project, and has been found to be defective and not in compliance with the Contract Documents will be clearly marked. The Contractor will be notified in writing concerning the defective material. The Contractor is expected to remove the defective material from the job site immediately. If the Owner has previously paid for this material, either in materials stored or work in place, such defective material will be credited to the Owner on the Contractor's next application for payment. The Contractor is responsible for carefully checking all materials which have been delivered to the job site which have the appearance of being only slightly damaged should be noted in the Contractor's log book.

Paragraph 11.3 - Property Insurance

Subparagraph 11.3.1

REVISE the last sentence of Paragraph 11.3.1 to ADD "Architect," after the word "Owner,".

DELETE Sub-subparagraph 11.3.1.3 in its entirety and, in lieu thereof, SUBSTITUTE the following new Subparagraph:

- 11.3.1.3 The contractor shall maintain builders risk and fire and extended coverage Insurance coverage to protect The City of Staunton, VA and Contractor and Subcontractors against loss caused by the perils insured in the amount of 100% of the replacement cost basis for the duration of the contract. The limit will be the full replacement cost of the building and/or structures being built under this contract. The City of Staunton, VA will be listed as an insured under this policy to protect any property owned at the construction site. Coverage is to be with a company licensed to conduct business in the Commonwealth of Virginia and
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have an A. M. Best rating of A- or better. Policy to be in Builder's Risk Completed Value forms, including the following:

1. Policies shall be written to include the names of contractors and County and the words "as their interest may appear";
2. all insurance shall be in effect on or before the date when construction work is to commence; and
3. all insurance shall be maintained in full force and effect until the substantial completion of the Work or any portions thereof.

ADD the following language to the end of Subparagraph 11.4:

[Add:] "Owner's loss of use damages are limited to the amount paid under the Loss of Use policy."

Subparagraph 11.3.7

DELETE the words "as fiduciary".

Subparagraph 11.3.8

DELETE the words "as fiduciary".

Subparagraph 11.3.9

DELETE the words "as fiduciary".

Subparagraph 11.3.10

DELETE the words "as fiduciary".

Paragraph 11.4 - Performance Bond and Payment Bond

Subparagraph 11.4.1

DELETE Subparagraph 11.4.1 in its entirety and, in lieu thereof, SUBSTITUTE the following new Subparagraph:

- 11.4.1 Contractor and all subcontractors shall be named as additional insureds on Owner's Loss of Use policy.

Contractor shall provide bonds in accordance with the provisions of the Contract Documents and the Commonwealth of Virginia – VPPA, and in so doing shall provide:

- (a) A Performance Bond at one hundred percent (100%) of the Contract amount, conditioned upon the faithful performance of Contractor in strict accordance with
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the plans, specifications and conditions of the Contract. Such bond shall be solely for the protection of Owner or assignee as authorized in accordance with the provisions of Paragraph 13.2.1 herein.

- (b) A Payment Bond at one hundred percent (100%) of the Contract amount. Such bond shall be solely for the protection of claimants supplying labor or materials to Contractor or to any of their Subcontractors in the prosecution of the Work provided for in the Contract Documents and shall be conditioned for the prompt payment of all such material furnished or labor supplied or performed in the prosecution of the Work. "Labor or Materials" shall include public utility services and reasonable rentals of equipment, but only for periods when the equipment rented is actually used at the site.
- (c) Each of such bonds required by the Contract Documents shall be executed by one or more surety companies legally authorized to do business in the Commonwealth of Virginia and not otherwise objectionable to Owner. The surety of whom Contractor has purchased bonds shall have an "A-" or better rating, plus a financial rating of VI or better with the A. M. Best's Company (Key Rating Guide – Latest Edition) and listed in the Department of Treasury Circular 570, with a capacity which meets or exceeds the contract amount. The bond shall be payable to Owner or assignee as provided for in Paragraph 13.2.1

Both a Performance Bond and Payment Bond shall be required as specified under Article 7 of the Supplementary Instructions to Bidders.

ARTICLE 12 - UNCOVERING AND CORRECTION OF WORK

Paragraph 12.2 - Correction of Work

Subparagraph 12.2.2 After Substantial Completion

Sub-subparagraph 12.2.2.1

DELETE the following from the first sentence and, in lieu thereof, SUBSTITUTE the following:

[Delete:] "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"

[Substitute:] "if, within one (1) year after the date of Final Completion of the Work or within one (1) year from the date of Partial Occupancy and Use and Final Completion of designated phases thereof (whichever shall first occur) or after the date for commencement of warranties"

DELETE sub-subparagraph 12.2.2.3 in its entirety and, in lieu thereof, SUBSTITUTE the following new sub-subparagraph:

12.2.2.3 In the event any Work, material or equipment is replaced or repaired as a consequence of latent defects or failure to meet the terms of the Contract Documents, all warranties with respect to such Work, material or equipment replaced

or repaired shall continue following repair or replacement of such Work, material or equipment for an additional period equivalent to the original period of warranty for such Work, material or equipment.

ARTICLE 13 - MISCELLANEOUS PROVISIONS

Paragraph 13.1 – Governing Law

DELETE the second sentence.

Add the following subparagraphs to Article 13.1:

In accordance with *Code of Virginia*, § 2.2-4311, 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, religion, color, sex or national origin, age, disability, or other basis prohibited by state law relating to discrimination in employment, except where there is a bona fide occupational qualification reasonably necessary to the normal operation of the Contractor. The Contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices setting forth the provisions of this nondiscrimination clause.
- B. The Contractor, in all solicitations or advertisements for employees placed by or on behalf of the Contractor, will state that such Contractor is an equal opportunity employer.
- C. Notices, advertisements and solicitations placed in accordance with federal law, rule or regulation shall be deemed sufficient for the purpose of meeting the requirements of this section.
- D. The Contractor will include the provisions of the foregoing paragraphs A., B., and C., in every subcontract or purchase order of over \$10,000, so that the provisions will be binding upon each subcontractor or vendor.

Bidders and Contractors performing Work under this Advertisement are bound by the requirements of the Occupational Safety and Health Administration (OSHA) regulations (29 CFR Part 1910).

During the performance of this Contract, the Contractor shall not knowingly employ an unauthorized alien as defined in the Federal Immigration Reform and Control Act of 1986, pursuant to the *Code of Virginia*, § 2.2-4311.1.

Drug-Free Workplace

- A. During the performance of this Contract, the Contractor agrees to (i) provide a drug-free workplace for the Contractor's employees; (ii) post in conspicuous places, available to employees and applicants for employment, a statement notifying employees that the unlawful manufacture, sale, distribution, dispensation, possession, or use of a controlled substance or marijuana is prohibited in the contractor's workplace and specifying the actions that will be taken against employees for violations of such prohibition; (iii) state in all solicitations or advertisements for employees placed by or on behalf of the Contractor that the Contractor maintains a drug-free workplace; and (iv) include the provisions of the foregoing clauses in

every subcontract or purchase order of over \$10,000, so that the provisions will be binding upon each subcontractor or vendor.

- B. For the purposes of this section, “drug-free workplace” means a site for the performance of work done in connection with a specific contract awarded to a Contractor in accordance with this chapter, the employees of whom are prohibited from engaging in the unlawful manufacture, sale, distribution, dispensation, possession or use of any controlled substance or marijuana during the performance of the Contract.

Subparagraph 13.3.2

REPLACE “the Owner, Architect or Contractor” with “Owner or Architect”

Paragraph 13.4 - Tests and Inspections

Subparagraph 13.4.1

DELETE Subparagraph 13.4.1 in its entirety and, in lieu thereof, SUBSTITUTE the following new subparagraph:

- 13.4.1 If the Contract Documents or any laws, statutes, ordinances, building codes, rules, regulations or orders of any governmental body or public or quasi-public authority having jurisdiction over the work or the site of the Project require any portion of the Work to be inspected, tested or approved, Contractor shall give Architect and Owner timely notice thereof so Architect and Owner may observe such inspection, test or approval.

Subparagraph 13.5 – Interest

DELETE Subparagraph 13.5 in its entirety.

ADD new Paragraph 13.6 as follows:

Paragraph 13.6 Tax Credits

- 13.6 The Project, or part or all of the Project or Work, may qualify for tax benefits arising from or related to the energy efficiency, energy efficiency rating, or energy efficiency score assigned to the Project or Work by the relevant taxing authority. These tax benefits include, without limitation, Internal Revenue Code §179.D and other federal, state or local tax benefits, as established by those authorities having jurisdiction over such benefits (hereinafter the “Tax Benefits”). These Tax Benefits may take various forms, including without limitation, accelerated depreciation for commercial, multifamily, and publically owned facilities. The Tax Benefits may be assignable by Owner to third parties, as provided for by the statutes, rules and regulations governing such Tax Benefits. Notwithstanding any other language contained in any of the Contract Documents, no Contractor or subcontractor shall, under any circumstances, apply for, request, receive, accept or retain any Tax Benefit arising from or related to the Project, Work, or any part of the Project or Work.

ARTICLE 14 - TERMINATION OR SUSPENSION OF THE CONTRACT

Paragraph 14.1 - Termination by the Contractor

DELETE Paragraph 14.1 in its entirety.

Paragraph 14.2 - Termination by the Owner for Cause

Subparagraph 14.2.1

DELETE Subparagraph 14.2.1 in its entirety and, in lieu thereof, SUBSTITUTE the following:

14.2.1 Owner may terminate the Contract if Contractor:

- .1 shall institute proceedings or consent to proceedings requesting relief or arrangement under the Federal Bankruptcy Code or any similar or applicable federal or state law; or if a petition under any federal or state bankruptcy or insolvency law is filed against Contractor and such petition is not dismissed within sixty (60) days from the date of said filing; or if Contractor admits in writing, its inability to pay its debts generally as they become due, or if it makes a general assignment for the benefit of its creditors, or if a receiver, liquidator, trustee or assignee is appointed on account of its bankruptcy or insolvency; or if a receiver of all or any substantial portion of Contractor's properties is appointed.
- .2 abandons the Work; or if it fails, except in cases for which an extension of time is provided, to prosecute promptly and diligently the Work or to supply enough properly skilled workers or proper materials for the Work;
- .3 submits an Application for Payment, sworn statement, affidavit or document of any nature whatsoever which is intentionally falsified;
- .4 fails to make prompt payment to subcontractors or for materials or labor or otherwise breaches their obligations under any subcontract with a subcontractor; or if a materialman's lien or notice of lien is filed against any part of the Work or the site of the Project and not promptly bonded or insured over by Contractor in a manner satisfactory to Owner;
- .5 disregards any laws, statutes, ordinances, rules, regulations or orders of any governmental body or public or quasi-public authority having jurisdiction of the Work or the site of the Project;
- .6 otherwise violates any provision of the Contract Documents; then Owner, upon the occurrence of the events described in clauses .1 through .5 above, without prejudice to any right or remedy available to Owner under the Contract Documents or at law or in equity may, after giving Contractor and its surety under the Performance Bond and under the Labor and Material Payment Bond, if any, seven (7) days written notice, terminate the Contract and, in accordance with the Uniform Commercial Code, may enforce a Security Agreement by taking possession of and using all or any part of Contractor's materials, equipment, supplies and other property of every kind used by Contractor in the performance of the Work in the completion of the Work. If requested by Owner, Contractor shall remove any part or all of its equipment, machinery and supplies from the site of the Project within seven (7) days from the date of such request, and in the event of Contractor's failure to do so, Owner shall have the right to remove or store such equipment, machinery and supplies at Contractor's expense. In case of such termination, Contractor shall not be entitled to receive any further

payment for Work performed by the Contract through the date of termination. Owner's right to terminate Owner-Contractor Agreement pursuant to this Subparagraph 14.2.1 shall be in addition to and not in limitation of any rights or remedies existing hereunder or pursuant hereto or at law or in equity.

Subparagraph 14.2.4

DELETE Subparagraph 14.2.4 in its entirety and, in lieu thereof, SUBSTITUTE the following new Subparagraph 14.2.4:

- 14.2.4 If the unpaid balance of the Contract Sum exceeds all costs to Owner of completing the Work, then Contractor shall be paid for all Work performed by Contractor to the date of termination. If such costs to Owner of completing the Work exceed such unpaid balance, Contractor shall pay the difference to Owner upon Owner's demand. The costs to Owner of completing the Work shall include, but not be limited to, the cost of any additional architectural, legal, consulting, expert, managerial and administrative services required thereby, any costs incurred in retaining another contractor or other subcontractors, any additional interest or fees which Owner must pay by reason of a delay in completion of the Work, including attorneys' fees and expenses and any other damage, costs and expenses Owner may incur by reason of completing the Work. The amount, if any, to be paid to Contractor shall be certified by Architect upon application, in the manner provided in Paragraph 9.4, and this obligation for payment shall survive the termination of the Contract.

Paragraph 14.3 - Suspension by the Owner for Convenience

Subparagraph 14.4.3

DELETE the remainder of the subparagraph after the words "for Work properly executed."

ADD new Paragraph 14.5 as follows:

Paragraph 14.5 Indemnification

- 14.5 Contractor and each subcontractor shall indemnify defend and hold harmless, Owner, its officers, directors, agents, and employees, Architect and its officers, directors, agents and employees, and each of them, as "indemnatee", from and against any and all fines, penalties, losses, costs, damages, injuries, expenses, claims, liens, encumbrances and/or liabilities (individually and collectively referred to herein as "liabilities") arising out of, or resulting from (a) any claim for any service or goods allegedly infringed, including without limitation any patent, copyright, trademark, service mark, trade secret or other legally-protected proprietary right; and (b) the Work as described in the Contract Documents, including, but not limited to, any claim of injury (including death) to persons or damage to property, and contamination of, or any adverse impact upon the environment, except to the extent that any such claim is finally found by the court by which such claims are finally resolved, to have arisen from the willful misconduct of the indemnatee. A finding of "willful misconduct" as against one indemnatee shall not nullify the indemnification as to any other indemnatee who is not found to have engaged in any willful misconduct. As

used herein, “willful misconduct” shall mean gross negligence or any intentional or criminal act. Owner shall notify Contractor of any suit or legal proceeding asserting a claim for liabilities. Contractor and subcontractors shall, at no cost to any indemnitee, defend and/or settle such suit or legal proceeding, or judgment, including any appellate proceeding, asserting a claim for liabilities. Contractor and subcontractors shall pay any costs and legal fees incurred by any indemnitee in connection with any liabilities, whether or not litigation is actually commenced, and shall keep indemnities informed as to the progress of the defense. If requested by an indemnitee, Contractor and subcontractors shall afford indemnities the opportunity to participate in the defense or settlement of any claim. With regard to any claim of infringement as referred to herein, Contractor and Subcontractors shall procure the right to continue using the services or goods, or at the indemnities’ option, replace or modify the services or goods to make them non- infringing services or goods.

ARTICLE 15 – CLAIMS AND DISPUTES

Paragraph 15.1 - Claims

Subparagraph 15.1.1 - Definition

ADD the following new sentence to the end of Subparagraph 15.1.1:

[Add:] All Claims as defined in §15.1.1, and any other claim or dispute between and among Contractors, or any Contractor and Owner or Architect, shall be governed by this Article 15.

Subparagraph 15.1.2

DELETE “Substantial” and substitute “Final” before “Completion” and INSERT “or as otherwise allowed by applicable law, whichever is later” after “Work” in the first sentence.

Subparagraph 15.1.3 – Notice of Claims

INSERT “written” before “notice” in the first sentence.

Sub-subparagraph 15.1.3.1

DELETE “, where the condition giving rise to the claim is first discovered prior to expiration of the period of correction of the Work set forth in Section 12.2.2,” from the first sentence.

Revise subparagraph 15.1.3.1 as follows:

15.1.3.1 Notice of Claims. In the second sentence, change all reference of “21 days” to “10 days”.

Sub-subparagraph 15.1.4.2

Change “shall” to “may”.

Subparagraph 15.1.6 – Claims for Additional Time

ADD the following new Sub-subparagraphs:

15.1.6.3 In planning the construction schedule within the agreed Contract Time, it shall be assumed that Contractor has anticipated the amount of adverse weather conditions normal to the site of the Work for the season or seasons of the year involved. Only those weather delays attributable to other than normal weather conditions will be considered.

15.1.6.4 The following Standard Baseline of monthly anticipated adverse weather delays is based on National Oceanic and Atmospheric Administration (NOAA) or similar data for the project location and will constitute the baseline for monthly weather time evaluations. "Standard Baseline" is defined as the normal number of calendar days for each month during which construction activity exposed to weather conditions is expected to be prevented and suspended by cause of adverse weather. "Adverse Weather" is defined as the occurrence of one or more of the following conditions within a twenty-four (24) hour day that prevents construction activity exposed to the weather conditions or access to the site:

1. Precipitation (rain, snow, or ice) in excess of 1/10 inch liquid measure.
2. Temperatures that did not rise above that required for the day's construction activity, if such temperature requirement is specified or accepted as standard industry practice.
3. Sustained wind in excess of 25 mph.

15.1.6.5 Contractor's Construction Schedule must reflect the following anticipated adverse weather delays in all weather dependent activities.

Standard Baseline

JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
14	7	7	8	8	7	4	5	4	4	5	7

15.1.6.6 Upon acknowledgement of the Notice to Proceed and continuing throughout the Contract, Contractor will record in a daily log the occurrence of adverse weather and resultant impact to normally scheduled Work. Actual adverse weather delay days must prevent work on critical activities for 50 percent or more of Contractor's scheduled work day in order to constitute an adverse weather delay day. The number of actual adverse weather delay days shall include days impacted by actual adverse weather (even if adverse weather occurred in a previous month), be calculated chronologically from the first to the last day of each month, and be recorded as full days. If the number of actual adverse weather delay days exceeds the number of days anticipated in sub-subparagraph 15.1.6.5 above, Architect will convert any qualifying delays to calendar days, giving full consideration for equivalent fair weather work days, and issue a no-cost Change Order for additional days, to be executed by Owner, Architect and Contractor. If the number of actual adverse weather days do not exceed the number of baseline days on any given month, then those days carry to the subsequent months and are cumulative throughout the project. This no-cost Change Order shall be the sole remedy for delays associated with weather.

Subparagraph 15.1.7 – Waiver of Claims for Consequential Damages

DELETE Subparagraph 15.1.7, including both sub-subparagraphs, in its entirety, and in lieu thereof, SUBSTITUTE the following subparagraph:

15.1.7 Contractor waives Claims against Owner for consequential damages arising out of or relating to this Contract, including but not limited to waiving any claims for damages incurred by Contractor for principal office expenses including the compensation of personnel stationed there, for losses of financing, business and reputation, and for loss of profit.

Subparagraph 15.1.8 – Owner as a Contracting Body

ADD new Subparagraph 15.1.8 as follows:

15.1.8 Contractor agrees and acknowledges that Owner is a public body corporate and a political subdivision of the Commonwealth of Virginia, and the Work on the Project is public construction and not subject to the filing of Mechanics Liens, and further agrees to provide and specify in its subcontracts with subcontractors for their acknowledgment that their sole remedy as to payment for the performance of labor or the furnishing of materials exists only under the provisions of the Payment Bond.

Subparagraph 15.2.5

DELETE in the third sentence after “parties” the following: “but subject to mediation, and if the parties fail to resolve their dispute through mediation, to binding dispute resolution.”

Subparagraphs 15.2.6, 15.2.7, 15.2.8

DELETE in their entirety the following: 15.2.6, 15.2.7, and 15.2.8.

Paragraph 15.3

DELETE in its entirety the provisions of paragraph 15.3 and SUBSTITUTE the following provisions:

Paragraph 15.3 Forum Selection; Waiver of Jury Trial

15.3.1 All actions, suits, or proceedings of any nature under the Contract or related in any way to the Project or the actions or omissions of the Contractor, Owner, or Architect as between or among any of them shall be filed and maintained solely in the state courts of the City of Staunton, Virginia. If any action suit or proceeding is brought by the Contractor solely against the Architect, the Architect may elect to require the dispute to be the subject of mediation and, absent resolution through mediation may then elect to require the dispute to be the subject of and decided by arbitration, pursuant to the rules of the American Arbitration Association; however, neither the Architect nor the Contractor, as a condition to the Architect electing the foregoing, shall have and they each expressly waive the right to assert at any time under any circumstances any third-party claim against or to join the Owner in such proceedings.

15.3.2 Contractor, Owner, and Architect waive any and all rights to trial by jury.

15.3.3 Should any Contractor bring a claim against Owner or Architect, then, unless the fact finder finds that Contractor had a good faith basis for the claim against Owner or Architect, Contractor shall be liable to Owner and Architect for all of Owner's and Architect's costs in having all such claims dismissed, or in defending all such claims, or both. These costs shall include all of Owner's or Architect's costs, including without limitation personnel costs, attorney's fees, expert fees, consulting fees, travel expenses, compensation expenses of staff and all other attributable costs.

ADD new Paragraph 15.5 as follows:

15.5 - Scheduling and Completion

15.5.1 It is the intention of the parties through these Contract Documents that all claims between Contractors arising from or related to coordination and scheduling of the Work, and any delays, disruptions, or interferences arising from or related to the actions of Contractors, shall be resolved between or among Contractors. Specifically, by execution of the Agreement, Contractor agrees to the following:

- .1 Owner and Architect and their representatives are not responsible for delays arising from or related to any act or omission of any Contractor. Owner and Architect are not responsible for any costs or damages arising from or related to a Contractor's coordination and scheduling of its Work. Owner and Architect are not liable for any costs or damages suffered or claimed by a Contractor arising from or related to any Contractor's coordination of its Work. Contractor hereby waives and releases and shall indemnify defend and hold harmless Owner and Architect from any liability and damages arising from or related to coordination by a Contractor of the Work, or coordination of the Work between or among Contractors, including their subcontractors and suppliers.
 - .2 Architect and Owner and their representatives shall not be liable to a Contractor for any increased costs or damages for defective work, interference, or delays arising from or related to any conflict between or among Contractors, their subcontractors and suppliers. Neither Owner nor Architect shall be joined as a party to any disputes or actions between or among Contractors or their subcontractors and suppliers concerning such additional expense or damage. Contractor's exclusive remedy in this regard shall be against any other Contractors involved in the dispute. Should any Contractor attempt to join Owner or Architect in any proceeding arising from any Claim between Contractors, including its subcontractors and suppliers, Contractor attempting to join Owner and Architect shall be liable to Owner and Architect for all of Owner's and Architect's costs arising from or related to such claims, including without limitation, seeking to have all such claims dismissed, or in defending all such claims, or both. These costs shall include all of Owner's or Architect's costs, including without limitation personnel costs, attorney's fees, expert fees, travel expenses, and the like.
 - .3 It is agreed by all parties that disputes or actions between Contractors concerning
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any additional expense or damage herein mentioned above shall not delay completion of the Work, which shall be continued by the parties pending final resolution of a claim, including without limitation, judicial proceedings. All final construction decisions of the Lead Prime Contractor, regarding scheduling and coordination of the Work, whether rendered orally or in writing, shall be observed and followed fully. It is agreed by the parties to this Contract that the intent of this Paragraph 15.5.1 is to benefit Owner and Architect, and Owner's interests, and that the provisions of the Contract Documents shall raise Contractor and other Contractors to the status of third party beneficiaries in connection with the coordination and scheduling of the Project and related claims between or among Contractors, and for no other purpose. Each Contractor hereby waives privity of Contract defenses as to other Contractors, and any assertion that Owner or Architect is vicariously or otherwise responsible for the acts and omissions of other Contractors. Each Contractor agrees that the other Contractors have the right to file claims and litigation against Contractor in the event Contractor is alleged to have caused damage to another Contractor by reason of delay, disruption, interference, or lack of coordination, among other reasons, as more fully described in the Contract Documents.

- .4 Contractor specifically releases, foregoes and waives any claims against Owner or Architect for extended overhead, delay damages, "impact" damages, loss of efficiency, loss of productivity, lost profit, or any other similar form of loss, damage or compensation, or other damages related to coordination and scheduling of the Project and all delays, disruptions, and interferences caused by the other Contractors.

15.5.2 Claims Related to Project Delay, Acceleration, Hindrances, Loss or Productivity or Similar Damages

As stated above in Subparagraphs § 3.3.4, § 6.1.3 and § 8.3.3, Contractor shall not pursue any claim for money damages against Owner, Architect, Owner's Representative (or their respective directors, employees or agents) in the event of any project delay, acceleration, hindrances, loss of productivity or similar damages, but shall be entitled to pursue a claim or dispute resolution proceeding for money damages against any other responsible Contractor pursuant to this Article 15. Each Contractor acknowledges it may be subject to third-part beneficiary claims and litigation brought by other Contractors for money damages as stated above, and expressly waives any privity of contract defense with regard to such proceedings. Each Contractor further agrees it will not bring Owner, Architect, Owner's Representative (or their respective directors, employees or agents) into any such claim or litigation proceedings as a party thereto, and will be subject to the indemnification provisions of Subparagraph § 8.3.3 if it violates this commitment.

END OF SECTION

SECTION 01 1000 - SUMMARY

PART 1 GENERAL

1.1 PROJECT

- A. Project Name: 16472 Gypsy Hill Park Restroom Renovations.
- B. Architect/Engineer's Name: Thompson & Litton, 726 Auburn Avenue, Radford, Virginia 24141.
- C. The Project consists of the renovation of two restrooms and new construction of one restroom facility.

1.2 CONTRACT DESCRIPTION

- A. Contract Type: A single prime contract based on a Stipulated Price as described in Document 00 5213 - Standard Form of Agreement Between Owner & Contractor.

1.3 DESCRIPTION OF ALTERATIONS WORK

- A. Scope of demolition and removal work is indicated on drawings and specified in Section 02 4100.
- B. Scope of alterations work is indicated on drawings.

1.4 OWNER OCCUPANCY

- A. Owner intends to occupy the Project upon Substantial Completion.
- B. Cooperate with Owner to minimize conflict and to facilitate Owner's operations.
- C. Schedule the Work to accommodate Owner occupancy.

1.5 CONTRACTOR USE OF SITE AND PREMISES

- A. Construction Operations: Limited to areas noted on Drawings.
 - 1. Locate and conduct construction activities in ways that will limit disturbance to site.
- B. Arrange use of site and premises to allow:
 - 1. Use of site and premises by the public.
- C. Provide access to and from site as required by law and by Owner:
 - 1. Do not obstruct roadways, sidewalks, or other public ways without permit.
- D. Time Restrictions:
 - 1. Construction may take place Monday - Friday, 7:00 am - 7:00 pm.
- E. Utility Outages and Shutdown:

1. Limit shutdown of utility services to TBD hours at a time, arranged at least 24 hours in advance with Owner.
2. Prevent accidental disruption of utility services to other facilities.

1.6 WORK SEQUENCE

- A. Construct Work in stages during the construction period:
 1. Stage 1: Pool Restrooms.
 2. Stage 2: Concessions Restroom.
 3. North Building may be constructed during both Stages 1 and 2.
- B. Coordinate construction schedule and operations with Owner.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION - NOT USED

END OF SECTION

SECTION 01 3000 - ADMINISTRATIVE REQUIREMENTS

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. General administrative requirements.
- B. Pre-construction conference.
- C. Progress meetings.
- D. Construction progress schedule.
- E. Contractor's daily reports.
- F. Submittals for review, information, and project closeout.
- G. Requests for Interpretation (RFI) procedures.
- H. Submittal procedures.

1.2 RELATED REQUIREMENTS

- A. Section 00 7200 - General Conditions: Dates for applications for payment.
- B. Section 00 7300 - Supplementary Conditions: Duties of the Construction Manager.
- C. Section 01 1000 - Summary: Stages of the Work,
- D. Section 01 7000 - Execution and Closeout Requirements: Additional coordination requirements.
- E. Section 01 7800 - Closeout Submittals: Project record documents; operation and maintenance data; warranties and bonds.

1.3 GENERAL ADMINISTRATIVE REQUIREMENTS

- A. Comply with requirements of Section 01 7000 - Execution and Closeout Requirements for coordination of execution of administrative tasks with timing of construction activities.
- B. Make the following types of submittals to Architect/Engineer:
 - 1. Requests for Interpretation (RFI).
 - 2. Requests for substitution.
 - 3. Shop drawings, product data, and samples.
 - 4. Test and inspection reports.
 - 5. Design data.
 - 6. Manufacturer's instructions and field reports.

7. Applications for payment and change order requests.
8. Progress schedules.
9. Coordination drawings.
10. Correction Punch List and Final Correction Punch List for Substantial Completion.
11. Closeout submittals.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION

3.1 PRE-CONSTRUCTION CONFERENCE

- A. Schedule meeting after Notice of Award.
- B. Attendance Required:
 1. Owner.
 2. Architect/Engineer.
 3. Contractor.
- C. Agenda:
 1. Execution of Owner-Contractor Agreement.
 2. Submission of executed bonds and insurance certificates.
 3. Distribution of Contract Documents.
 4. Submission of list of subcontractors, list of products, schedule of values, and progress schedule.
 5. Procedures and processing of field decisions, submittals, substitutions, applications for payments, proposal request, Change Orders, and Contract closeout procedures.
 6. Scheduling.
- D. Record minutes and distribute copies within five days after meeting to participants, with one copy to Architect/Engineer, Owner, participants, and those affected by decisions made.

3.2 PROGRESS MEETINGS

- A. Schedule and administer meetings throughout progress of the work at maximum bi-monthly intervals.
- B. Attendance Required:
 1. Contractor.

2. Owner.
3. Architect/Engineer.
4. Contractor's superintendent.

C. Agenda:

1. Review minutes of previous meetings.
2. Review of work progress.
3. Field observations, problems, and decisions.
4. Identification of problems that impede, or will impede, planned progress.
5. Review of submittals schedule and status of submittals.
6. Maintenance of progress schedule.
7. Corrective measures to regain projected schedules.
8. Planned progress during succeeding work period.
9. Maintenance of quality and work standards.
10. Effect of proposed changes on progress schedule and coordination.
11. Other business relating to work.

- D. Record minutes and distribute copies within five days after meeting to participants, with two copies to Architect/Engineer, Owner, participants, and those affected by decisions made.

3.3 CONSTRUCTION PROGRESS SCHEDULE

- A. Within 10 days after date of the Agreement, submit preliminary schedule defining planned operations for the first 60 days of work, with a general outline for remainder of work.
- B. If preliminary schedule requires revision after review, submit revised schedule within 10 days.
- C. Submit updated schedule with each Application for Payment.

3.4 DAILY CONSTRUCTION REPORTS

- A. Include only factual information. Do not include personal remarks or opinions regarding operations and/or personnel. Daily Construction Reports are to be distributed to the Owner and the Architect on a daily basis.

3.5 REQUESTS FOR INTERPRETATION (RFI)

- A. Definition: A request seeking one of the following:

1. An interpretation, amplification, or clarification of some requirement of Contract Documents arising from inability to determine from them the exact material, process, or system to be installed; or when the elements of construction are required to occupy the same space (interference); or when an item of work is described differently at more than one place in Contract Documents.
- B. Preparation: Prepare an RFI immediately upon discovery of a need for interpretation of Contract Documents. Failure to submit a RFI in a timely manner is not a legitimate cause for claiming additional costs or delays in execution of the work.
 1. Prepare a separate RFI for each specific item.
 - a. Review, coordinate, and comment on requests originating with subcontractors and/or materials suppliers.
- C. Reason for the RFI: Prior to initiation of an RFI, carefully study all Contract Documents to confirm that information sufficient for their interpretation is definitely not included.
 1. Include in each request Contractor's signature attesting to good faith effort to determine from Contract Documents information requiring interpretation.
- D. Attachments: Include sketches, coordination drawings, descriptions, photos, submittals, and other information necessary to substantiate the reason for the request.

3.6 SUBMITTALS FOR REVIEW

- A. When the following are specified in individual sections, submit them for review:
 1. Product data.
 2. Shop drawings.
 3. Samples for selection.
 4. Samples for verification.
- B. Submit to Architect/Engineer for review for the limited purpose of checking for compliance with information given and the design concept expressed in Contract Documents.
- C. Samples will be reviewed for aesthetic, color, or finish selection.
- D. After review, provide copies and distribute in accordance with SUBMITTAL PROCEDURES article below and for record documents purposes described in Section 01 7800 - Closeout Submittals.

3.7 SUBMITTALS FOR INFORMATION

- A. When the following are specified in individual sections, submit them for information:
 1. Design data.
 2. Certificates.

3. Test reports.
 4. Inspection reports.
 5. Manufacturer's instructions.
 6. Manufacturer's field reports.
 7. Other types indicated.
- B. Submit for Architect/Engineer's knowledge as contract administrator or for Owner.

3.8 SUBMITTALS FOR PROJECT CLOSEOUT

- A. Submit Correction Punch List for Substantial Completion.
- B. Submit Final Correction Punch List for Substantial Completion.
- C. When the following are specified in individual sections, submit them at project closeout in compliance with requirements of Section 01 7800 - Closeout Submittals:
1. Project record documents.
 2. Operation and maintenance data.
 3. Warranties.
 4. Bonds.
 5. Other types as indicated.
- D. Submit for Owner's benefit during and after project completion.

3.9 SUBMITTAL PROCEDURES

- A. General Requirements:
1. Use a separate transmittal for each item.
 2. Submit separate packages of submittals for review and submittals for information, when included in the same specification section.
 3. Sequentially identify each item. For revised submittals use original number and a sequential numerical suffix.
 4. Identify: Project; Contractor; subcontractor or supplier; pertinent drawing and detail number; and specification section number and article/paragraph, as appropriate on each copy.
 5. Apply Contractor's stamp, signed or initialed certifying that review, approval, verification of products required, field dimensions, adjacent construction work, and coordination of information is in accordance with the requirements of the work and Contract Documents.

3.10 SUBMITTAL REVIEW

- A. Submittals for Review: Architect/Engineer will review each submittal, and approve, or take other appropriate action.
- B. Submittals for Information: Architect/Engineer will acknowledge receipt and review. See below for actions to be taken.
- C. Architect/Engineer's actions will be reflected by marking each returned submittal using virtual stamp on electronic submittals.
- D. Architect/Engineer's and consultants' actions on items submitted for review:
 - 1. Authorizing purchasing, fabrication, delivery, and installation:
 - a. "Approved", or language with same legal meaning.
 - b. "Approved as Noted, Resubmission not required", or language with same legal meaning.
 - 1) At Contractor's option, submit corrected item, with review notations acknowledged and incorporated.
 - c. "Approved as Noted, Resubmit for Record", or language with same legal meaning.
 - 2. Not Authorizing fabrication, delivery, and installation:
- E. Architect/Engineer's and consultants' actions on items submitted for information:
 - 1. Items for which no action was taken:
 - a. "Received" - to notify the Contractor that the submittal has been received for record only.
 - 2. Items for which action was taken:
 - a. "Reviewed" - no further action is required from Contractor.

END OF SECTION

SECTION 01 4000 - QUALITY REQUIREMENTS

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Submittals.
- B. Quality assurance.
- C. Testing and inspection agencies and services.
- D. Contractor's construction-related professional design services.
- E. Control of installation.
- F. Defect Assessment.

1.2 RELATED REQUIREMENTS

- A. Document 00 7200 - General Conditions: Inspections and approvals required by public authorities.
- B. Section 01 3000 - Administrative Requirements: Submittal procedures.

1.3 CONTRACTOR'S CONSTRUCTION-RELATED PROFESSIONAL DESIGN SERVICES

- A. Coordination: Contractor's professional design services are subject to requirements of project's Conditions for Construction Contract.
- B. Provide such engineering design services as may be necessary to plan and safely conduct certain construction operations, pertaining to, but not limited to the following:
 - 1. Temporary sheeting, shoring, or supports.
 - 2. Temporary scaffolding.
 - 3. Temporary bracing.

1.4 SUBMITTALS

- A. See Section 01 3000 - Administrative Requirements, for submittal procedures.
- B. Test Reports: After each test/inspection, promptly submit two copies of report to Architect/Engineer and to Contractor.
 - 1. Include:
 - a. Date issued.
 - b. Project title and number.
 - c. Name of inspector.

- d. Date and time of sampling or inspection.
- e. Identification of product and specifications section.
- f. Location in the Project.
- g. Type of test/inspection.
- h. Date of test/inspection.
- i. Results of test/inspection.
- j. Compliance with Contract Documents.
- k. When requested by Architect/Engineer, provide interpretation of results.

1.5 QUALITY ASSURANCE

A. Testing Agency Qualifications:

- 1. Prior to start of work, submit agency name, address, and telephone number, and names of full time registered Engineer and responsible officer.

B. Designer Qualifications: Where professional engineering design services and design data submittals are specifically required of Contractor by Contract Documents, provide services of a Professional Engineer experienced in design of this type of work and licensed in the State in which the Project is located.

1.6 TESTING AND INSPECTION AGENCIES AND SERVICES

- A. Owner will employ services of an independent testing agency to perform certain specified testing; payment for cost of services will be derived from allowance specified in Section 01 2100; see Section 01 2100 and applicable sections for description of services included in allowance.
- B. Contractor shall employ and pay for services of an independent testing agency to perform other specified testing.
- C. Employment of agency in no way relieves Contractor of obligation to perform Work in accordance with requirements of Contract Documents.
- D. Contractor Employed Agency:

PART 3 EXECUTION

2.1 CONTROL OF INSTALLATION

- A. Monitor quality control over suppliers, manufacturers, products, services, site conditions, and workmanship, to produce work of specified quality.
- B. Comply with manufacturers' instructions, including each step in sequence.

- C. Should manufacturers' instructions conflict with Contract Documents, request clarification from Architect/Engineer before proceeding.
- D. Comply with specified standards as minimum quality for the work except where more stringent tolerances, codes, or specified requirements indicate higher standards or more precise workmanship.
- E. Have work performed by persons qualified to produce required and specified quality.
- F. Verify that field measurements are as indicated on shop drawings or as instructed by the manufacturer.
- G. Secure products in place with positive anchorage devices designed and sized to withstand stresses, vibration, physical distortion, and disfigurement.

2.2 TESTING AND INSPECTION

A. Testing Agency Duties:

1. Provide qualified personnel at site. Cooperate with Architect/Engineer and Contractor in performance of services.
2. Perform specified sampling and testing of products in accordance with specified standards.
3. Ascertain compliance of materials and mixes with requirements of Contract Documents.
4. Promptly notify Architect/Engineer and Contractor of observed irregularities or non-compliance of Work or products.
5. Perform additional tests and inspections required by Architect/Engineer.
6. Submit reports of all tests/inspections specified.

B. Limits on Testing/Inspection Agency Authority:

1. Agency may not release, revoke, alter, or enlarge on requirements of Contract Documents.
2. Agency may not approve or accept any portion of the Work.
3. Agency may not assume any duties of Contractor.
4. Agency has no authority to stop the Work.

C. Contractor Responsibilities:

1. Deliver to agency at designated location, adequate samples of materials proposed to be used that require testing, along with proposed mix designs.
2. Cooperate with laboratory personnel, and provide access to the Work and to manufacturers' facilities.

3. Provide incidental labor and facilities:
 - a. To provide access to Work to be tested/inspected.
 - b. To obtain and handle samples at the site or at source of Products to be tested/inspected.
 - c. To facilitate tests/inspections.
 - d. To provide storage and curing of test samples.
4. Notify Architect/Engineer and laboratory 24 hours prior to expected time for operations requiring testing/inspection services.
5. Employ services of an independent qualified testing laboratory and pay for additional samples, tests, and inspections required by Contractor beyond specified requirements.
6. Arrange with Owner's agency and pay for additional samples, tests, and inspections required by Contractor beyond specified requirements.
- D. Re-testing required because of non-compliance with specified requirements shall be performed by the same agency on instructions by Architect/Engineer.
- E. Re-testing required because of non-compliance with specified requirements shall be paid for by Contractor.

2.3 DEFECT ASSESSMENT

- A. Replace Work or portions of the Work not complying with specified requirements.

END OF SECTION

SECTION 01 5000 - TEMPORARY FACILITIES AND CONTROLS

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Temporary utilities.
- B. Temporary sanitary facilities.
- C. Temporary Controls: Barriers, enclosures, and fencing.
- D. Security requirements.
- E. Vehicular access and parking.
- F. Waste removal facilities and services.

1.2 TEMPORARY UTILITIES

- A. Owner will provide the following:
 - 1. Electrical power and metering, consisting of connection to existing facilities.
 - 2. Water supply, consisting of connection to existing facilities.

1.3 TEMPORARY SANITARY FACILITIES

- A. Provide and maintain required facilities and enclosures. Provide at time of project mobilization.
- B. Maintain daily in clean and sanitary condition.

1.4 BARRIERS

- A. Provide barriers to prevent unauthorized entry to construction areas, to prevent access to areas that could be hazardous to workers or the public, to allow for owner's use of site and to protect existing facilities and adjacent properties from damage from construction operations and demolition.
- B. Provide barricades and covered walkways required by governing authorities for public rights-of-way and for public access to existing building.
- C. Protect non-owned vehicular traffic, stored materials, site, and structures from damage.
- D. Provide signage directing public to alternate restrooms.

1.5 FENCING

- A. Construction: Contractor's option.

1.6 SECURITY

- A. Provide security and facilities to protect Work, existing facilities, and Owner's operations from unauthorized entry, vandalism, or theft.

1.7 VEHICULAR ACCESS AND PARKING

- A. Comply with regulations relating to use of streets and sidewalks, access to emergency facilities, and access for emergency vehicles.
- B. Coordinate access and haul routes with governing authorities and Owner.
- C. Provide and maintain access to fire hydrants, free of obstructions.
- D. Provide means of removing mud from vehicle wheels before entering streets.
- E. Designated existing on-site roads may be used for construction traffic.
- F. Provide temporary parking areas to accommodate construction personnel. When site space is not adequate, provide additional off-site parking.
- G. Amount and location of parking for construction personnel to be determined by the Owner.

1.8 WASTE REMOVAL

- A. Provide waste removal facilities and services as required to maintain the site in clean and orderly condition.
- B. Provide containers with lids. Remove trash from site no less than weekly.
- C. If materials to be recycled or re-used on the project must be stored on-site, provide suitable non-combustible containers; locate containers holding flammable material outside the structure unless otherwise approved by the authorities having jurisdiction.
- D. Open free-fall chutes are not permitted. Terminate closed chutes into appropriate containers with lids.

1.9 REMOVAL OF UTILITIES, FACILITIES, AND CONTROLS

- A. Remove temporary utilities, equipment, facilities, materials, prior to Date of Substantial Completion inspection.
- B. Remove underground installations to a minimum depth of 2 feet. Grade site as indicated.
- C. Clean and repair damage caused by installation or use of temporary work.
- D. Restore existing facilities used during construction to original condition.

END OF SECTION

SECTION 01 6000 - PRODUCT REQUIREMENTS

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Re-use of existing products.
- B. Transportation, handling, storage and protection.
- C. Product option requirements.
- D. Substitution limitations.
- E. Procedures for Owner-supplied products.
- F. Maintenance materials, including extra materials, spare parts, tools, and software.

1.2 RELATED REQUIREMENTS

- A. Section 01 1000 - Summary
- B. Section 01 4000 - Quality Requirements: Product quality monitoring.
- C. Section 01 6116 - Volatile Organic Compound (VOC) Content Restrictions: Requirements for VOC-restricted product categories.
- D. Section 01 7419 - Construction Waste Management and Disposal: Waste disposal requirements potentially affecting product selection, packaging and substitutions.

1.3 REFERENCE STANDARDS

1.4 SUBMITTALS

- A. Product Data Submittals: Submit manufacturer's standard published data. Mark each copy to identify applicable products, models, options, and other data. Supplement manufacturers' standard data to provide information specific to this Project.
- B. Shop Drawing Submittals: Prepared specifically for this Project; indicate utility and electrical characteristics, utility connection requirements, and location of utility outlets for service for functional equipment and appliances.
- C. Sample Submittals: Illustrate functional and aesthetic characteristics of the product, with integral parts and attachment devices. Coordinate sample submittals for interfacing work.
 - 1. For selection from standard finishes, submit samples of the full range of the manufacturer's standard colors, textures, and patterns.

PART 2 PRODUCTS

2.1 EXISTING PRODUCTS

- A. Existing materials and equipment indicated to be removed, but not to be re-used, relocated, reinstalled, delivered to the Owner, or otherwise indicated as to remain the property of the Owner, become the property of the Contractor; remove from site.

2.2 NEW PRODUCTS

- A. Provide new products unless specifically required or permitted by Contract Documents.
- B. See Section 01 4000 - Quality Requirements, for additional source quality control requirements.
- C. Use of products having any of the following characteristics is not permitted:
 - 1. Made using or containing CFC's or HCFC's.
 - 2. Made of wood from newly cut old growth timber.
 - 3. Containing lead, cadmium, or asbestos.
- D. Where other criteria are met, Contractor shall give preference to products that:
 - 1. If used on interior, have lower emissions.
 - 2. If wet-applied, have lower VOC content.
 - 3. Are extracted, harvested, and/or manufactured closer to the location of the project.
 - 4. Are made of recycled materials.
 - 5. If made of wood, are made of sustainably harvested wood, wood chips, or wood fiber.
 - 6. Are Cradle-to-Cradle Certified.

2.3 PRODUCT OPTIONS

- A. Products Specified by Reference Standards or by Description Only: Use any product meeting those standards or description.
- B. Products Specified by Naming One or More Manufacturers: Use a product of one of the manufacturers named and meeting specifications, no options or substitutions allowed.
- C. Products Specified by Naming One or More Manufacturers with a Provision for Substitutions: Submit a request for substitution for any manufacturer not named.

2.4 MAINTENANCE MATERIALS

- A. Furnish extra materials, spare parts, tools, and software of types and in quantities specified in individual specification sections.
- B. Deliver to Project site; obtain receipt prior to final payment.

PART 3 EXECUTION

3.1 OWNER-SUPPLIED PRODUCTS

A. Owner's Responsibilities:

1. Arrange for and deliver Owner reviewed shop drawings, product data, and samples, to Contractor.
2. Arrange and pay for product delivery to site.
3. On delivery, inspect products jointly with Contractor.
4. Submit claims for transportation damage and replace damaged, defective, or deficient items.
5. Arrange for manufacturers' warranties, inspections, and service.

B. Contractor's Responsibilities:

1. Review Owner reviewed shop drawings, product data, and samples.
2. Receive and unload products at site; inspect for completeness or damage jointly with Owner.
3. Handle, store, install and finish products.
4. Repair or replace items damaged after receipt.

3.2 TRANSPORTATION AND HANDLING

- A. Package products for shipment in manner to prevent damage; for equipment, package to avoid loss of factory calibration.
- B. If special precautions are required, attach instructions prominently and legibly on outside of packaging.
- C. Coordinate schedule of product delivery to designated prepared areas in order to minimize site storage time and potential damage to stored materials.
- D. Transport and handle products in accordance with manufacturer's instructions.
- E. Transport materials in covered trucks to prevent contamination of product and littering of surrounding areas.
- F. Promptly inspect shipments to ensure that products comply with requirements, quantities are correct, and products are undamaged.
- G. Provide equipment and personnel to handle products by methods to prevent soiling, disfigurement, or damage, and to minimize handling.
- H. Arrange for the return of packing materials, such as wood pallets, where economically feasible.

3.3 STORAGE AND PROTECTION

- A. Designate receiving/storage areas for incoming products so that they are delivered according to installation schedule and placed convenient to work area in order to minimize waste due to excessive materials handling and misapplication. See Section 01 7419.
- B. Store and protect products in accordance with manufacturers' instructions.
- C. Store with seals and labels intact and legible.
- D. Store sensitive products in weathertight, climate-controlled enclosures in an environment favorable to product.
- E. For exterior storage of fabricated products, place on sloped supports above ground.
- F. Protect products from damage or deterioration due to construction operations, weather, precipitation, humidity, temperature, sunlight and ultraviolet light, dirt, dust, and other contaminants.
- G. Comply with manufacturer's warranty conditions, if any.
- H. Cover products subject to deterioration with impervious sheet covering. Provide ventilation to prevent condensation and degradation of products.
- I. Prevent contact with material that may cause corrosion, discoloration, or staining.
- J. Provide equipment and personnel to store products by methods to prevent soiling, disfigurement, or damage.
- K. Arrange storage of products to permit access for inspection. Periodically inspect to verify products are undamaged and are maintained in acceptable condition.

SECTION 01 7000 - EXECUTION AND CLOSEOUT REQUIREMENTS

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Examination, preparation, and general installation procedures.
- B. Requirements for alterations work, including selective demolition.
- C. Cutting and patching.
- D. Surveying for laying out the work.
- E. Cleaning and protection.
- F. Closeout procedures, including Contractor's Correction Punch List, except payment procedures.
- G. General requirements for maintenance service.

1.2 RELATED REQUIREMENTS

- A. Section 01 1000 - Summary: Limitations on working in existing building; continued occupancy; work sequence; identification of salvaged and relocated materials.
- B. Section 01 3000 - Administrative Requirements: Submittals procedures, Electronic document submittal service.
- C. Section 01 4000 - Quality Requirements: Testing and inspection procedures.
- D. Section 01 5000 - Temporary Facilities and Controls:
- E. Section 01 7800 - Closeout Submittals: Project record documents, operation and maintenance data, warranties, and bonds.

1.3 REFERENCE STANDARDS

- A. NFPA 241 - Standard for Safeguarding Construction, Alteration, and Demolition Operations 2022, with Errata (2021).

1.4 SUBMITTALS

- A. See Section 01 3000 - Administrative Requirements, for submittal procedures.
- B. Survey work: Submit name, address, and telephone number of Surveyor before starting survey work.
 - 1. On request, submit documentation verifying accuracy of survey work.
 - 2. Submit a copy of site drawing signed by the Land Surveyor, that the elevations and locations of the work are in compliance with Contract Documents.

3. Submit surveys and survey logs for the project record.
- C. Cutting and Patching: Submit written request in advance of cutting or alteration that affects:
1. Structural integrity of any element of Project.
 2. Integrity of weather exposed or moisture resistant element.
 3. Efficiency, maintenance, or safety of any operational element.
 4. Visual qualities of sight exposed elements.
 5. Work of Owner or separate Contractor.
 6. Include in request:
 - a. Identification of Project.
 - b. Location and description of affected work.
 - c. Necessity for cutting or alteration.
 - d. Description of proposed work and products to be used.
 - e. Effect on work of Owner or separate Contractor.
 - f. Written permission of affected separate Contractor.
 - g. Date and time work will be executed.

1.5 QUALIFICATIONS

- A. For surveying work, employ a land surveyor registered in the State in which the Project is located and acceptable to Architect/Engineer. Submit evidence of surveyor's Errors and Omissions insurance coverage in the form of an Insurance Certificate. Employ only individual(s) trained and experienced in collecting and recording accurate data relevant to ongoing construction activities,

1.6 PROJECT CONDITIONS

- A. Use of explosives is not permitted.
- B. Grade site to drain. Maintain excavations free of water. Provide, operate, and maintain pumping equipment.
- C. Protect site from puddling or running water. Provide water barriers as required to protect site from soil erosion.
- D. Ventilate enclosed areas to assist cure of materials, to dissipate humidity, and to prevent accumulation of dust, fumes, vapors, or gases.

- E. Erosion and Sediment Control: Plan and execute work by methods to control surface drainage from cuts and fills, from borrow and waste disposal areas. Prevent erosion and sedimentation.
- F. Noise Control: Provide methods, means, and facilities to minimize noise produced by construction operations.
 - 1. Outdoors: Limit conduct of especially noisy exterior work to 7:00 am to 7:00 pm.
- G. Pest and Rodent Control: Provide methods, means, and facilities to prevent pests and insects from damaging the work.
- H. Pollution Control: Provide methods, means, and facilities to prevent contamination of soil, water, and atmosphere from discharge of noxious, toxic substances, and pollutants produced by construction operations. Comply with federal, state, and local regulations.

1.7 COORDINATION

- A. Coordinate scheduling, submittals, and work of the various sections of the Project Manual to ensure efficient and orderly sequence of installation of interdependent construction elements, with provisions for accommodating items installed later.
- B. Notify affected utility companies and comply with their requirements.
- C. Verify that utility requirements and characteristics of new operating equipment are compatible with building utilities. Coordinate work of various sections having interdependent responsibilities for installing, connecting to, and placing in service, such equipment.
- D. Coordinate space requirements, supports, and installation of mechanical and electrical work that are indicated diagrammatically on drawings. Follow routing indicated for pipes, ducts, and conduit, as closely as practicable; place runs parallel with lines of building. Utilize spaces efficiently to maximize accessibility for other installations, for maintenance, and for repairs.
- E. In finished areas except as otherwise indicated, conceal pipes, ducts, and wiring within the construction. Coordinate locations of fixtures and outlets with finish elements.
- F. Coordinate completion and clean-up of work of separate sections.
- G. After Owner occupancy of premises, coordinate access to site for correction of defective work and work not in accordance with Contract Documents, to minimize disruption of Owner's activities.

PART 2 PRODUCTS

2.1 PATCHING MATERIALS

- A. New Materials: As specified in product sections; match existing products and work for patching and extending work.
- B. Type and Quality of Existing Products: Determine by inspecting and testing products where necessary, referring to existing work as a standard.

- C. Product Substitution: For any proposed change in materials, submit request for substitution described in Section 01 6000 - Product Requirements.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Verify that existing site conditions and substrate surfaces are acceptable for subsequent work. Start of work means acceptance of existing conditions.
- B. Verify that existing substrate is capable of structural support or attachment of new work being applied or attached.
- C. Examine and verify specific conditions described in individual specification sections.
- D. Take field measurements before confirming product orders or beginning fabrication, to minimize waste due to over-ordering or misfabrication.
- E. Verify that utility services are available, of the correct characteristics, and in the correct locations.
- F. Prior to Cutting: Examine existing conditions prior to commencing work, including elements subject to damage or movement during cutting and patching. After uncovering existing work, assess conditions affecting performance of work. Beginning of cutting or patching means acceptance of existing conditions.

3.2 PREPARATION

- A. Clean substrate surfaces prior to applying next material or substance.
- B. Seal cracks or openings of substrate prior to applying next material or substance.
- C. Apply manufacturer required or recommended substrate primer, sealer, or conditioner prior to applying any new material or substance in contact or bond.

3.3 LAYING OUT THE WORK

- A. Verify locations of survey control points prior to starting work.
- B. Promptly notify Architect/Engineer of any discrepancies discovered.
- C. Contractor shall locate and protect survey control and reference points.
- D. Protect survey control points prior to starting site work; preserve permanent reference points during construction.
- E. Promptly report to Architect/Engineer the loss or destruction of any reference point or relocation required because of changes in grades or other reasons.
- F. Replace dislocated survey control points based on original survey control. Make no changes without prior written notice to Architect/Engineer.

- G. Utilize recognized engineering survey practices.
- H. Establish elevations, lines and levels. Locate and lay out by instrumentation and similar appropriate means:
 - 1. Site improvements including pavements; stakes for grading, fill and topsoil placement; utility locations, slopes, and invert elevations.
 - 2. Grid or axis for structures.
 - 3. Building foundation, column locations, ground floor elevations.
- I. Periodically verify layouts by same means.
- J. Maintain a complete and accurate log of control and survey work as it progresses.

3.4 GENERAL INSTALLATION REQUIREMENTS

- A. Install products as specified in individual sections, in accordance with manufacturer's instructions and recommendations, and so as to avoid waste due to necessity for replacement.
- B. Make vertical elements plumb and horizontal elements level, unless otherwise indicated.
- C. Install equipment and fittings plumb and level, neatly aligned with adjacent vertical and horizontal lines, unless otherwise indicated.
- D. Make consistent texture on surfaces, with seamless transitions, unless otherwise indicated.
- E. Make neat transitions between different surfaces, maintaining texture and appearance.

3.5 ALTERATIONS

- A. Drawings showing existing construction and utilities are based on casual field observation and existing record documents only.
 - 1. Verify that construction and utility arrangements are as indicated.
 - 2. Report discrepancies to Architect/Engineer before disturbing existing installation.
 - 3. Beginning of alterations work constitutes acceptance of existing conditions.
- B. Remove existing work as indicated and as required to accomplish new work.
 - 1. Remove items indicated on drawings.
 - 2. Relocate items indicated on drawings.
 - 3. Where new surface finishes are to be applied to existing work, perform removals, patch, and prepare existing surfaces as required to receive new finish; remove existing finish if necessary for successful application of new finish.

4. Where new surface finishes are not specified or indicated, patch holes and damaged surfaces to match adjacent finished surfaces as closely as possible.
- C. Services (Including but not limited to HVAC, Plumbing, Fire Protection, Electrical, and Telecommunications): Remove, relocate, and extend existing systems to accommodate new construction.
1. Maintain existing active systems that are to remain in operation; maintain access to equipment and operational components; if necessary, modify installation to allow access or provide access panel.
 2. Where existing systems or equipment are not active and Contract Documents require reactivation, put back into operational condition; repair supply, distribution, and equipment as required.
 3. Where existing active systems serve occupied facilities but are to be replaced with new services, maintain existing systems in service until new systems are complete and ready for service.
 - a. Disable existing systems only to make switchovers and connections; minimize duration of outages.
 - b. Provide temporary connections as required to maintain existing systems in service.
 4. Verify that abandoned services serve only abandoned facilities.
 5. Remove abandoned pipe, ducts, conduits, and equipment , including those above accessible ceilings; remove back to source of supply where possible, otherwise cap stub and tag with identification; patch holes left by removal using materials specified for new construction.
- D. Protect existing work to remain.
1. Prevent movement of structure; provide shoring and bracing if necessary.
 2. Perform cutting to accomplish removals neatly and as specified for cutting new work.
 3. Repair adjacent construction and finishes damaged during removal work.
- E. Adapt existing work to fit new work: Make as neat and smooth transition as possible.
- F. Patching: Where the existing surface is not indicated to be refinished, patch to match the surface finish that existed prior to cutting. Where the surface is indicated to be refinished, patch so that the substrate is ready for the new finish.
- G. Refinish existing surfaces as indicated:
1. Where rooms or spaces are indicated to be refinished, refinish all visible existing surfaces to remain to the specified condition for each material, with a neat transition to adjacent finishes.

2. If mechanical or electrical work is exposed accidentally during the work, re-cover and refinish to match.
- H. Clean existing systems and equipment.
- I. Remove demolition debris and abandoned items from alterations areas and dispose of off-site; do not burn or bury.
- J. Do not begin new construction in alterations areas before demolition is complete.
- K. Comply with all other applicable requirements of this section.

3.6 CUTTING AND PATCHING

- A. Whenever possible, execute the work by methods that avoid cutting or patching.
- B. See Alterations article above for additional requirements.
- C. Perform whatever cutting and patching is necessary to:
 1. Complete the work.
 2. Fit products together to integrate with other work.
 3. Provide openings for penetration of mechanical, electrical, and other services.
 4. Match work that has been cut to adjacent work.
 5. Repair areas adjacent to cuts to required condition.
 6. Repair new work damaged by subsequent work.
 7. Remove samples of installed work for testing when requested.
 8. Remove and replace defective and non-complying work.
- D. Execute work by methods that avoid damage to other work and that will provide appropriate surfaces to receive patching and finishing. In existing work, minimize damage and restore to original condition.
- E. Cut rigid materials using masonry saw or core drill. Pneumatic tools not allowed without prior approval.
- F. Restore work with new products in accordance with requirements of Contract Documents.
- G. Fit work air tight to pipes, sleeves, ducts, conduit, and other penetrations through surfaces.
- H. Patching:
 1. Finish patched surfaces to match finish that existed prior to patching. On continuous surfaces, refinish to nearest intersection or natural break. For an assembly, refinish entire unit.

2. Match color, texture, and appearance.
3. Repair patched surfaces that are damaged, lifted, discolored, or showing other imperfections due to patching work. If defects are due to condition of substrate, repair substrate prior to repairing finish.

3.7 PROGRESS CLEANING

- A. Maintain areas free of waste materials, debris, and rubbish. Maintain site in a clean and orderly condition.
- B. Remove debris and rubbish from pipe chases, plenums, attics, crawl spaces, and other closed or remote spaces, prior to enclosing the space.
- C. Broom and vacuum clean interior areas prior to start of surface finishing, and continue cleaning to eliminate dust.
- D. Collect and remove waste materials, debris, and trash/rubbish from site periodically and dispose off-site; do not burn or bury.

3.8 PROTECTION OF INSTALLED WORK

- A. Protect installed work from damage by construction operations.
- B. Provide special protection where specified in individual specification sections.
- C. Provide temporary and removable protection for installed products. Control activity in immediate work area to prevent damage.
- D. Provide protective coverings at walls, projections, jambs, sills, and soffits of openings.
- E. Protect finished floors, stairs, and other surfaces from traffic, dirt, wear, damage, or movement of heavy objects, by protecting with durable sheet materials.
- F. Prohibit traffic or storage upon waterproofed or roofed surfaces. If traffic or activity is necessary, obtain recommendations for protection from waterproofing or roofing material manufacturer.
- G. Remove protective coverings when no longer needed; reuse or recycle coverings if possible.

3.9 ADJUSTING

- A. Adjust operating products and equipment to ensure smooth and unhindered operation.

3.10 FINAL CLEANING

- A. Use cleaning materials that are nonhazardous.
- B. Clean interior and exterior glass, surfaces exposed to view; remove temporary labels, stains and foreign substances, polish transparent and glossy surfaces, vacuum carpeted and soft surfaces.

- C. Remove all labels that are not permanent. Do not paint or otherwise cover fire test labels or nameplates on mechanical and electrical equipment.
- D. Clean equipment and fixtures to a sanitary condition with cleaning materials appropriate to the surface and material being cleaned.
- E. Clean filters of operating equipment.
- F. Clean debris from roofs, gutters, downspouts, scuppers, overflow drains, area drains, drainage systems.
- G. Clean site; sweep paved areas, rake clean landscaped surfaces.
- H. Remove waste, surplus materials, trash/rubbish, and construction facilities from the site; dispose of in legal manner; do not burn or bury.

3.11 CLOSEOUT PROCEDURES

- A. Make submittals that are required by governing or other authorities.
- B. Accompany Project Coordinator on preliminary inspection to determine items to be listed for completion or correction in the Contractor's Correction Punch List for Contractor's Notice of Substantial Completion.
- C. Notify Architect/Engineer when work is considered ready for Architect/Engineer's Substantial Completion inspection.
- D. Submit written certification containing Contractor's Correction Punch List, that Contract Documents have been reviewed, work has been inspected, and that work is complete in accordance with Contract Documents and ready for Architect/Engineer's Substantial Completion inspection.
- E. Conduct Substantial Completion inspection and create Final Correction Punch List containing Architect/Engineer's and Contractor's comprehensive list of items identified to be completed or corrected and submit to Architect/Engineer.
- F. Correct items of work listed in Final Correction Punch List and comply with requirements for access to Owner-occupied areas.
- G. Notify Architect/Engineer when work is considered finally complete and ready for Architect/Engineer's Substantial Completion final inspection.
- H. Complete items of work determined by Architect/Engineer listed in executed Certificate of Substantial Completion.

3.12 MAINTENANCE

- A. Provide service and maintenance of components indicated in specification sections.
- B. Maintenance Period: As indicated in specification sections or, if not indicated, not less than one year from the Date of Substantial Completion or the length of the specified warranty,

whichever is longer.

- C. Examine system components at a frequency consistent with reliable operation. Clean, adjust, and lubricate as required.
- D. Include systematic examination, adjustment, and lubrication of components. Repair or replace parts whenever required. Use parts produced by the manufacturer of the original component.
- E. Maintenance service shall not be assigned or transferred to any agent or subcontractor without prior written consent of the Owner.

SECTION 01 7800 - CLOSEOUT SUBMITTALS

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Project Record Documents.
- B. Operation and Maintenance Data.
- C. Warranties and bonds.

1.2 RELATED REQUIREMENTS

- A. Section 00 7210 - General Conditions: Performance bond and labor and material payment bonds, warranty, and correction of work.
- B. Section 01 3000 - Administrative Requirements: Submittals procedures, shop drawings, product data, and samples.
- C. Section 01 7000 - Execution and Closeout Requirements: Contract closeout procedures.
- D. Individual Product Sections: Specific requirements for operation and maintenance data.
- E. Individual Product Sections: Warranties required for specific products or Work.

1.3 SUBMITTALS

- A. Project Record Documents: Submit documents to Architect/Engineer with claim for final Application for Payment.
- B. Operation and Maintenance Data:
 - 1. For equipment, or component parts of equipment put into service during construction and operated by Owner, submit completed documents within ten days after acceptance.
 - 2. Submit one copy of completed documents 15 days prior to final inspection. This copy will be reviewed and returned after final inspection, with Architect/Engineer comments. Revise content of all document sets as required prior to final submission.
 - 3. Submit two sets of revised final documents in final form within 10 days after final inspection.
- C. Warranties and Bonds:
 - 1. For equipment or component parts of equipment put into service during construction with Owner's permission, submit documents within 10 days after acceptance.
 - 2. Make other submittals within 10 days after Date of Substantial Completion, prior to final Application for Payment.
 - 3. For items of Work for which acceptance is delayed beyond Date of Substantial Completion, submit within 10 days after acceptance, listing the date of acceptance as the

beginning of the warranty period.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION

3.1 PROJECT RECORD DOCUMENTS

- A. Maintain on site one set of the following record documents; record actual revisions to the Work:
 - 1. Drawings.
 - 2. Addenda.
 - 3. Change Orders and other modifications to the Contract.
- B. Ensure entries are complete and accurate, enabling future reference by Owner.
- C. Store record documents separate from documents used for construction.
- D. Record information concurrent with construction progress.
- E. Record Drawings: Legibly mark each item to record actual construction including:
 - 1. Field changes of dimension and detail.
 - 2. Details not on original Contract drawings.

3.2 OPERATION AND MAINTENANCE DATA

- A. Product Data: Mark each sheet to clearly identify specific products and component parts, and data applicable to installation. Delete inapplicable information.
- B. Drawings: Supplement product data to illustrate relations of component parts of equipment and systems, to show control and flow diagrams. Do not use Project Record Documents as maintenance drawings.
- C. Typed Text: As required to supplement product data. Provide logical sequence of instructions for each procedure, incorporating manufacturer's instructions.

3.3 OPERATION AND MAINTENANCE DATA FOR MATERIALS AND FINISHES

- A. Where additional instructions are required, beyond the manufacturer's standard printed instructions, have instructions prepared by personnel experienced in the operation and maintenance of the specific products.

3.4 ASSEMBLY OF OPERATION AND MAINTENANCE MANUALS

- A. Assemble operation and maintenance data into durable manuals for Owner's personnel use, with data arranged in the same sequence as, and identified by, the specification sections.

- B. Where systems involve more than one specification section, provide separate tabbed divider for each system.
- C. Binders: Commercial quality, 8-1/2 by 11 inch three D side ring binders with durable plastic covers; 2 inch maximum ring size. When multiple binders are used, correlate data into related consistent groupings.
- D. Cover: Identify each binder with typed or printed title OPERATION AND MAINTENANCE INSTRUCTIONS; identify title of Project; identify subject matter of contents.
- E. Project Directory: Title and address of Project; names, addresses, and telephone numbers of Architect/Engineer, Consultants, Contractor and subcontractors, with names of responsible parties.
- F. Tables of Contents: List every item separated by a divider, using the same identification as on the divider tab; where multiple volumes are required, include all volumes Tables of Contents in each volume, with the current volume clearly identified.
- G. Dividers: Provide tabbed dividers for each separate product and system; identify the contents on the divider tab; immediately following the divider tab include a description of product and major component parts of equipment.
- H. Text: Manufacturer's printed data, or typewritten data on 20 pound paper.
- I. Drawings: Provide with reinforced punched binder tab. Bind in with text; fold larger drawings to size of text pages.

3.5 WARRANTIES AND BONDS

- A. Obtain warranties and bonds, executed in duplicate by responsible Subcontractors, suppliers, and manufacturers, within 10 days after completion of the applicable item of work. Except for items put into use with Owner's permission, leave date of beginning of time of warranty until Date of Substantial completion is determined.
- B. Verify that documents are in proper form, contain full information, and are notarized.
- C. Co-execute submittals when required.
- D. Retain warranties and bonds until time specified for submittal.

END OF SECTION

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SECTION 02 4119 - SELECTIVE STRUCTURE DEMOLITION

PART 1 - GENERAL

1.1 SUMMARY

- A. This Section includes the following:
 - 1. Demolition and removal of selected portions of the existing building.

1.2 DEFINITIONS

- A. Remove: Detach items from existing construction and legally dispose of them off site, unless indicated to be removed and salvaged or removed and reinstalled.
- B. Remove and Reinstall: Detach items from existing construction, protect, store and prepare them for reuse, and reinstall them where indicated.
- C. Existing to Remain: Existing items of construction that are not to be removed and that are not otherwise indicated to be removed, removed and salvaged, or removed and reinstalled.

1.3 SUBMITTALS

- A. Schedule of Selective Demolition Activities: Indicate detailed sequence of selective demolition and removal work, with starting and ending dates for each activity, interruption of utility services, use of elevator and stairs, and locations of temporary partitions and means of egress.
- B. Landfill Records: Indicate receipt and acceptance of hazardous wastes by a landfill facility licensed to accept hazardous wastes, if any.

1.4 QUALITY ASSURANCE

- A. Demolition Firm Qualifications: An experienced firm that has specialized in demolition work similar in material and extent to that indicated for this project.
- B. Regulatory Requirements: Comply with governing EPA notification regulations before beginning selective demolition. Comply with hauling and disposal regulations of authorities having jurisdiction.
- C. Standards: Comply with ANSI A10.6 and NFPA 241.

1.5 PROJECT CONDITIONS

- A. The building will be occupied in the areas immediately adjacent to the selective demolition areas. Conduct selective demolition so the buildings main tenant operations will not be disrupted.
- B. Conditions existing at the 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 materials suspected of containing hazardous materials are encountered, do not disturb; immediately notify the Architect and Owner. Owner will remove hazardous materials under a separate contract.
- E. Storage or sale of removed items or materials on site is not permitted.
- F. Utility Service: Maintain existing utilities indicated to remain in service and protect them against damage during selective demolition operations.
 - 1. Maintain fire protection facilities in service during selective demolition operations.

1.6 WARRANTY

- A. Existing Warranties: Remove, replace, patch, and repair materials and surfaces cut or damaged during selective demolition, by methods and with materials so as not to void existing warranties.

PART 2 - PRODUCTS – NOT USED

PART 3 – EXECUTION

3.1 EXAMINATION

- A. Verify that utilities have been disconnected and capped.
- B. Survey existing conditions and correlate with requirements indicated to determine extent of selective demolition required.
- C. Inventory and record the condition of items to be removed and reinstalled and items to be removed and salvaged. See Architectural drawings for process by which items can be removed from the site.
- D. When unanticipated mechanical, electrical, or structural elements that conflict with intended function or design are encountered, investigate and measure the nature and extent of conflict. Promptly submit a written report to Architect.
- E. Survey of Existing Conditions: Record existing conditions by use of preconstruction photographs.
- F. Perform surveys as the work progresses to detect hazards resulting from selective demolition activities.

3.2 UTILITY SERVICES AND MECHANICAL/ELECTRICAL SYSTEMS

- A. Existing Services/Systems: Maintain services/systems indicated to remain and protect them against damage during selective demolition operations.
- B. Service/System Requirements: Locate, identify, disconnect, and seal or cap off indicated Utility services and mechanical/electrical systems serving areas to be selectively demolished.

1. If services/systems are required to be removed, relocated, or abandoned, before proceeding with selective demolition provide temporary services/systems that bypass area of selective demolition and that maintain continuity of services/systems to other parts of building.

3.3 PREPARATION

- A. Site Access and Temporary Controls: Conduct selective demolition and debris removal operations to ensure minimum interference with adjacent occupied and used facilities.
 1. Comply with requirements for access and protection specified in Division 01.

3.4 TEMPORARY FACILITIES

- A. Provide temporary barricades and other protection required to prevent injury to people and damage to adjacent areas of the building and the site.
- B. General: Demolish and remove existing construction only to the extent required by new construction and as indicated on the drawings. Use methods required to complete the work within limitations of governing regulations and as follows:
 1. 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, to minimize disturbance of adjacent surfaces. Temporarily cover openings to remain. All concrete cutting and other cutting shall occur after normal business hours.
 2. Cut or drill from the exposed or finished side into concealed surfaces to avoid marring existing finished surfaces.
 3. 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.
 4. Locate selective demolition equipment and remove debris and materials so as not to impose excessive loads on supporting walls, floors, or framing.
 5. Dispose of demolished items and materials promptly.
- C. 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.

3.5 DISPOSAL OF DEMOLISHED MATERIALS

- A. General: Except for items or materials indicated to be reused or reinstalled, remove demolished materials from project site and legally dispose of them in an EPA approved landfill.
- B. Burning: Do not burn demolished materials.

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

3.6 CLEANING

- A. Clean the area effected of dust, dirt, and debris caused by selective demolition operations.
Return adjacent areas to condition existing before selective demolition operations began.

END OF SECTION

SECTION 03 3000 - CAST-IN-PLACE CONCRETE

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Concrete formwork.
- B. Floors and slabs on grade.
- C. Concrete reinforcement.
- D. Joint devices associated with concrete work.
- E. Concrete curing.

1.2 RELATED REQUIREMENTS

- A. Section 07 9200 - Joint Sealants: Products and installation for sealants for saw cut joints and isolation joints in slabs.
- B. Section 32 1313 - Concrete Paving: Sidewalks, curbs and gutters.

1.3 REFERENCE STANDARDS

- A. ACI 117 - Standard Specifications for Tolerances for Concrete Construction and Materials; American Concrete Institute International; 2010.
- B. ACI 211.1 - Standard Practice for Selecting Proportions for Normal, Heavyweight, and Mass Concrete; American Concrete Institute International; 1991 (Reapproved 2002).
- C. ACI 301 - Specifications for Structural Concrete; American Concrete Institute International; 2010.
- D. ACI 302.1R - Guide for Concrete Floor and Slab Construction; American Concrete Institute International; 2004 (Errata 2007).
- E. ACI 304R - Guide for Measuring, Mixing, Transporting, and Placing Concrete; American Concrete Institute International; 2000.
- F. ACI 308R - Guide to Curing Concrete; American Concrete Institute International; 2001 (Reapproved 2008).
- G. ACI 318 - Building Code Requirements for Structural Concrete and Commentary; American Concrete Institute International; 2011.
- H. ACI 347 - Guide to Formwork for Concrete; American Concrete Institute International; 2004.
- I. ASTM A615/A615M - Standard Specification for Deformed and Plain Carbon Billet-Steel Bars for Concrete Reinforcement; 2014.
- J. ASTM A1064/A1064M - Standard Specification for Carbon-Steel Wire and Welded Wire Reinforcement, Plain and Deformed, for Concrete; 2013.

- K. ASTM C39/C39M - Standard Test Method for Compressive Strength of Cylindrical Concrete Specimens; 2014.
- L. ASTM C94/C94M - Standard Specification for Ready-Mixed Concrete; 2014.
- M. ASTM C260/C260M - Standard Specification for Air-Entraining Admixtures for Concrete; 2010a.
- N. ASTM C494/C494M - Standard Specification for Chemical Admixtures for Concrete; 2013.
- O. ASTM C618 - Standard Specification for Coal Fly Ash and Raw or Calcined Natural Pozzolan for Use in Concrete; 2012.
- P. ASTM C881/C881M - Standard Specification for Epoxy-Resin-Base Bonding Systems for Concrete; 2013.
- Q. ASTM D1751 - Standard Specification for Preformed Expansion Joint Filler for Concrete Paving and Structural Construction (Nonextruding and Resilient Bituminous Types); 2004 (Reapproved 2013).

1.4 SUBMITTALS

- A. See Section 01 3000 - Administrative Requirements, for submittal procedures.

1.5 QUALITY ASSURANCE

- A. Perform work of this section in accordance with ACI 301 and ACI 318.

PART 2 PRODUCTS

2.1 FORMWORK

- A. Formwork Design and Construction: Comply with guidelines of ACI 347 to provide formwork that will produce concrete complying with tolerances of ACI 117.
- B. Form Materials: Contractor's choice of standard products with sufficient strength to withstand hydrostatic head without distortion in excess of permitted tolerances.
 - 1. Earth Cuts: Do not use earth cuts as forms for vertical surfaces other than footings. Natural rock formations that maintain a stable vertical edge may be used as side forms.
 - 2. Form Coating: Release agent that will not adversely affect concrete or interfere with application of coatings.

2.2 REINFORCEMENT

- A. Reinforcing Steel: ASTM A615/A615M, Grade 60 - 60,000 psi.
 - 1. Type: Deformed billet-steel bars.
 - 2. Finish: Unfinished, unless otherwise indicated.

- B. Steel Welded Wire Reinforcement (WWR): Galvanized, plain type, ASTM A1064/A1064M.
 - 1. Form: Flat Sheets.
 - 2. WWR Style: As indicated on drawings.
- C. Reinforcement Accessories:
 - 1. Tie Wire: Annealed, minimum 16 gage, 0.0508 inch.
 - 2. Chairs, Bolsters, Bar Supports, Spacers: Sized and shaped for adequate support of reinforcement during concrete placement.
 - 3. Provide stainless steel, galvanized, plastic, or plastic coated steel components for placement within 1-1/2 inches of weathering surfaces.

2.3 CONCRETE MATERIALS

- A. Cement: ASTM C150, Type I or II Portland type.
 - 1. Acquire all cement for entire project from same source.
- B. Fine and Coarse Aggregates: ASTM C 33.
 - 1. Acquire all aggregates for entire project from same source.
- C. Fly Ash: ASTM C618, Class F. Fly ash shall not exceed 25 percent by weight of total cementitious material.
- D. Water: Clean and not detrimental to concrete, complying with ASTM C94/94M.

2.4 ADMIXTURES

- A. Chemical Admixtures: Provide admixtures certified by manufacturer to be compatible with other admixtures and that will not contribute water-soluble chloride ions exceeding those permitted in hardened concrete. Do not use calcium chloride or admixtures containing calcium chloride.
- B. Do not use chemicals that will result in soluble chloride ions in excess of 0.1 percent by weight of cement.
- C. Air Entrainment Admixture: ASTM C260/C260M.
- D. High Range Water Reducing and Retarding Admixture: ASTM C494/C494M Type G.
- E. High Range Water Reducing Admixture: ASTM C494/C494M Type F.
- F. Water Reducing and Retarding Admixture: ASTM C494/C494M Type D.

2.5 BONDING AND JOINTING PRODUCTS

- A. Epoxy Bonding System:

1. Complying with ASTM C881/C881M and of Type required for specific application.
- B. Slab Expansion and Isolation Joint Filler: 1/2 inch thick, height equal to slab thickness, with removable top section that will form 1/2 inch deep sealant pocket after removal.
 1. Material: ASTM D1751, cellulose fiber.
- C. Slab Construction Joint Devices: Combination keyed joint form and screed, galvanized steel, with minimum 1 inch diameter holes for conduit or rebars to pass through at 6 inches on center; ribbed steel stakes for setting.

2.6 CURING MATERIALS

- A. Evaporation Reducer: Liquid thin-film-forming compound that reduces rapid moisture loss caused by high temperature, low humidity, and high winds; intended for application immediately after concrete placement.
- B. Curing and Sealing Compound, Low Gloss: Liquid, membrane-forming, clear, non-yellowing acrylic; complying with ASTM C1315 Type 1 Class A.
- C. Moisture-Retaining Sheet: ASTM C171.
- D. Absorptive Cover: AASHTO M 182, Class 2, burlap cloth made from jute or kenaf, weighing approximately 9 oz./sq. yd. (305 g/sq. m) when dry.
- E. Water: Potable, not detrimental to concrete.

2.7 CONCRETE MIX DESIGN

- A. Proportioning Normal Weight Concrete: Comply with ACI 211.1 recommendations.
- B. Limit water-soluble, chloride-ion content in hardened concrete to 0.06 percent by weight of cement.
- C. Concrete Strength: Establish required average strength for each type of concrete on the basis of field experience or trial mixtures, as specified in ACI 301.
 1. For trial mixtures method, employ independent testing agency acceptable to Architect/Engineer for preparing and reporting proposed mix designs.
- D. Admixtures: Add acceptable admixtures as recommended in ACI 211.1 and at rates recommended or required by manufacturer.
- E. Normal Weight Concrete:
 1. Compressive Strength, when tested in accordance with ASTM C39/C39M at 28 days: As indicated on drawings.
 2. Fly Ash Content: Maximum 25 percent of cementitious materials by weight.
- F. Footings: Proportion normal-weight concrete mixture as follows:

1. Minimum Compressive Strength: 3000 psi (20.7 MPa) at 28 days.
 2. Maximum Water-Cementitious Materials Ratio: 0.50.
 3. Slump Limit: 4 inches (100 mm), plus or minus 1 inch (25 mm).
- G. Slabs-on-Grade: Proportion normal-weight concrete mixture as follows:
1. Minimum Compressive Strength: 4000 psi (27.6 MPa) at 28 days.
 2. Maximum Water-Cementitious Materials Ratio: 0.45.
 3. Slump Limit: 4 inches (100 mm), plus or minus 1 inch (25 mm).
 4. Air Content: 6 percent, plus or minus 1.5 percent at point of delivery for 1-inch (25-mm) nominal maximum aggregate size.

2.8 MIXING

- A. Transit Mixers: Comply with ASTM C94/C94M and ASTM C1116/C 116M.
1. When air temperature is between 85 and 90 deg F (30 and 32 deg C), reduce mixing and delivery time from 1-1/2 hours to 75 minutes; when air temperature is above 90 deg F (32 deg C), reduce mixing and delivery time to 60 minutes.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Verify lines, levels, and dimensions before proceeding with Work of this Section.

3.2 PREPARATION

- A. Formwork: Comply with requirements of ACI 301. Design and fabricate forms to support all applied loads until concrete is cured, and for easy removal without damage to concrete.
- B. Verify that forms are clean before applying release agent.
- C. Coordinate placement of embedded items with erection of concrete formwork and placement of form accessories.
- D. Coat contact surfaces of forms with form-release agent, according to manufacturer's written instructions, before placing reinforcement.
- E. Where new concrete is to be bonded to previously placed concrete, prepare existing surface by cleaning with steel brush and applying bonding agent in accordance with manufacturer's instructions.
1. Use epoxy bonding system for bonding to damp surfaces, for structural load-bearing applications, and where curing under humid conditions is required.

3.3 INSTALLING REINFORCEMENT AND OTHER EMBEDDED ITEMS

- A. Comply with requirements of ACI 301. Clean reinforcement of loose rust and mill scale, and accurately position, support, and secure in place to achieve not less than minimum concrete coverage required for protection.
- B. Install welded wire reinforcement in maximum possible lengths, and offset end laps in both directions. Splice laps with tie wire. Lap ends and edges six-inches or at least one mesh spacing.
- C. Verify that anchors, seats, plates, reinforcement and other items to be cast into concrete are accurately placed, positioned securely, and will not interfere with concrete placement.

3.4 PLACING CONCRETE

- A. Before placing concrete, verify that installation of formwork, reinforcement, and embedded items is complete and that required inspections have been performed.
- B. Do not add water to concrete during delivery, at Project site, or during placement unless approved by Architect.
- C. Before test sampling and placing concrete, water may be added at Project site, subject to limitations of ACI 301 provide amount of water withheld at plant is indicated on mix delivery ticket.
- D. Place concrete in accordance with ACI 304R.
- E. Place concrete for floor slabs in accordance with ACI 302.1R.
- F. Notify testing agency not less than 24 hours prior to commencement of placement operations.
- G. Maintain records of concrete placement. Record date, location, quantity, air temperature, and test samples taken.
- H. Ensure reinforcement and embedded parts will not be disturbed during concrete placement.
- I. Finish floors level and flat, unless otherwise indicated, within the tolerances specified below.
- J. Deposit concrete continuously in one layer or in horizontal layers of such thickness that no new concrete will be placed on concrete that has hardened enough to cause seams or planes of weakness. If a section cannot be placed continuously, provide construction joints as indicated. Deposit concrete to avoid segregation.
 - 1. Deposit concrete in horizontal layers of depth to not exceed formwork design pressures and in a manner to avoid inclined construction joints.
 - 2. Consolidate placed concrete with mechanical vibrating equipment according to ACI 301.
 - 3. Do not use vibrators to transport concrete inside forms. Insert and withdraw vibrators vertically at uniformly spaced locations to rapidly penetrate placed layer and at least 6 inches (150 mm) into preceding layer. Do not insert vibrators into lower layers of concrete that have begun to lose plasticity. At each insertion, limit duration of vibration to time necessary to consolidate concrete and complete embedment of reinforcement

and other embedded items without causing mixture constituents to segregate.

- K. Deposit and consolidate concrete for floors and slabs in a continuous operation, within limits of construction joints, until placement of a panel or section is complete.
 - 1. Consolidate concrete during placement operations so concrete is thoroughly worked around reinforcement and other embedded items and into corners.
 - 2. Maintain reinforcement in position on chairs during concrete placement.
 - 3. Screed slab surfaces with a straightedge and strike off to correct elevations.
 - 4. Slope surfaces uniformly to drains where required.
 - 5. Begin initial floating using bull floats or darbies to form a uniform and open-textured surface plane, before excess bleed water appears on the surface. Do not further disturb slab surfaces before starting finishing operations.
- L. Cold-Weather Placement: Comply with ACI 306.1 and as follows. Protect concrete work from physical damage or reduced strength that could be caused by frost, freezing actions, or low temperatures.
 - 1. When average high and low temperature is expected to fall below 40 deg F (4.4 deg C) for three successive days, maintain delivered concrete mixture temperature within the temperature range required by ACI 301.
 - 2. Do not use frozen materials or materials containing ice or snow. Do not place concrete on frozen subgrade or on subgrade containing frozen materials.
 - 3. Do not use calcium chloride, salt, or other materials containing antifreeze agents or chemical accelerators unless otherwise specified and approved in mixture designs.
- M. Hot-Weather Placement: Comply with ACI 301 and as follows:
 - 1. Maintain concrete temperature below 90 deg F (32 deg C) at time of placement. Chilled mixing water or chopped ice may be used to control temperature, provided water equivalent of ice is calculated to total amount of mixing water. Using liquid nitrogen to cool concrete is Contractor's option.
 - 2. Fog-spray forms, steel reinforcement, and subgrade just before placing concrete. Keep subgrade uniformly moist without standing water, soft spots, or dry areas.

3.5 SLAB JOINTING

- A. Locate joints as indicated on the Drawings.
- B. Anchor joint fillers and devices to prevent movement during concrete placement.
- C. Isolation Joints: Use preformed joint filler with removable top section for joint sealant, total height equal to thickness of slab, set flush with top of slab.

1. Install wherever necessary to separate slab from other building members, including columns, walls, equipment foundations, footings, stairs, manholes, sumps, and drains.
- D. Load Transfer Construction and Contraction Joints: Install load transfer devices as indicated; saw cut joint at surface as indicated for contraction joints.
- E. Saw Cut Contraction Joints: Saw cut joints before concrete begins to cool, within 4 to 12 hours after placing; use 1/8 inch thick blade and cut at least 1 inch deep but not less than one quarter (1/4) the depth of the slab.
- F. Construction Joints: Install so strength and appearance of concrete are not impaired, at locations indicated or as approved by Architect.
 1. Use epoxy-bonding adhesive at locations where fresh concrete is placed against hardened or partially hardened concrete surfaces.
- G. Contraction Joints in Slabs-on-Grade: Form weakened-plane contraction joints, sectioning concrete into areas as indicated. Construct contraction joints for a depth equal to at least one-fourth of concrete thickness as follows:
 1. Form contraction joints after initial floating by grooving and finishing each edge of joint to a radius of 1/8 inch (3.2 mm). Repeat grooving of contraction joints after applying surface finishes. Eliminate groover tool marks on concrete surfaces.
 2. Sawed Joints: Form contraction joints with power saws equipped with shatterproof abrasive or diamond-rimmed blades. Cut 1/8-inch- (3.2-mm-) wide joints into concrete when cutting action will not tear, abrade, or otherwise damage surface and before concrete develops random contraction cracks.
- H. Isolation Joints in Slabs-on-Grade: After removing formwork, install joint-filler strips at slab junctions with vertical surfaces, such as column pedestals, foundation walls, grade beams, and other locations, as indicated.
 1. Extend joint-filler strips full width and depth of joint, terminating flush with finished concrete surface unless otherwise indicated.
 2. Terminate full-width joint-filler strips not less than 1/2 inch or more than 1 inch below finished concrete surface where joint sealants, specified in Section 07 9200 "Joint Sealants," are indicated.
 3. Install joint-filler strips in lengths as long as practicable. Where more than one length is required, lace or clip sections together.
- I. Construction Joints: Where not otherwise indicated, use metal combination screed and key form, with removable top section for joint sealant.
- J. Doweled Joints: Install dowel bars and support assemblies at joints where indicated. Lubricate or asphalt coat one-half of dowel length to prevent concrete bonding to one side of joint.

3.6 FLOOR FLATNESS AND LEVELNESS TOLERANCES

- A. Maximum Variation of Surface Flatness:
 - 1. Exposed Concrete Floors: 1/4 inch in 10 ft.
- B. Correct the slab surface if tolerances are less than specified.
- C. Correct defects by grinding or by removal and replacement of the defective work. Areas requiring corrective work will be identified. Re-measure corrected areas by the same process.

3.7 CONCRETE FINISHING

- A. Concrete Slabs: Finish to requirements of ACI 302.1R, and as follows:
 - 1. Other Surfaces to Be Left Exposed: "Steel trowel" as described in ACI 302.1R, minimizing burnish marks and other appearance defects.

3.8 CURING AND PROTECTION

- A. Comply with requirements of ACI 308R. Immediately after placement, protect concrete from premature drying, excessively hot or cold temperatures, and mechanical injury.
- B. Maintain concrete with minimal moisture loss at relatively constant temperature for period necessary for hydration of cement and hardening of concrete.
- C. Surfaces Not in Contact with Forms:
 - 1. Initial Curing: Start as soon as free water has disappeared and before surface is dry. Keep continuously moist for not less than three days by water ponding, water-saturated sand, water-fog spray, or saturated burlap.
 - 2. Final Curing: Begin after initial curing but before surface is dry.

3.9 FIELD QUALITY CONTROL

- A. Testing and Inspecting: Engage a qualified testing and inspecting agency to perform tests and inspections and to submit reports.
- B. Inspections:
 - 1. Steel reinforcement placement.
 - 2. Steel reinforcement welding.
 - 3. Verification of use of required design mixture.
 - 4. Concrete placement, including conveying and depositing.
 - 5. Curing procedures and maintenance of curing temperature.
- C. Concrete Tests: Testing of composite samples of fresh concrete obtained according to ASTM C 172 shall be performed according to the following requirements:

1. Testing Frequency: Obtain one composite sample for each day's pour of each concrete mixture exceeding 5 cu. yd. (4 cu. m), but less than 25 cu. yd. (19 cu. m), plus one set for each additional 50 cu. yd. (38 cu. m) or fraction thereof.
2. Slump: ASTM C 143/C 143M; one test at point of placement for each composite sample, but not less than one test for each day's pour of each concrete mixture. Perform additional tests when concrete consistency appears to change.
3. Air Content: ASTM C 231, pressure method, for normal-weight concrete; one test for each composite sample, but not less than one test for each day's pour of each concrete mixture.
4. Concrete Temperature: ASTM C 1064/C 1064M; one test hourly when air temperature is 40 deg F (4.4 deg C) and below and when 80 deg F (27 deg C) and above, and one test for each composite sample.
5. Strength of each concrete mixture will be satisfactory if every average of any three consecutive compressive-strength tests equals or exceeds specified compressive strength and no compressive-strength test value falls below specified compressive strength by more than 500 psi (3.4 MPa).
6. Test results shall be reported in writing to Architect/Engineer, concrete manufacturer, and Contractor within 48 hours of testing. Reports of compressive-strength tests shall contain Project identification name and number, date of concrete placement, name of concrete testing and inspecting agency, location of concrete batch in Work, design compressive strength at 28 days, concrete mixture proportions and materials, compressive breaking strength, and type of break for both 7- and 28-day tests.
7. Nondestructive Testing: Impact hammer, sonoscope, or other nondestructive device may be permitted by Architect but will not be used as sole basis for approval or rejection of concrete.
8. Additional Tests: Testing and inspecting agency shall make additional tests of concrete when test results indicate that slump, air entrainment, compressive strengths, or other requirements have not been met, as directed by Architect. Testing and inspecting agency may conduct tests to determine adequacy of concrete by cored cylinders complying with ASTM C 42/C 42M or by other methods as directed by Architect/Engineer.
9. Additional testing and inspecting, at Contractor's expense, will be performed to determine compliance of replaced or additional work with specified requirements.
10. Correct deficiencies in the Work that test reports and inspections indicate do not comply with the Contract Documents.

3.10 DEFECTIVE CONCRETE

- A. Test Results: The testing agency shall report test results in writing to Architect/Engineer and Contractor within 24 hours of test.

- B. Defective Concrete: Concrete not conforming to required lines, details, dimensions, tolerances or specified requirements.
- C. Repair or replacement of defective concrete will be determined by the Architect/Engineer. The cost of additional testing shall be borne by Contractor when defective concrete is identified.
- D. Do not patch, fill, touch-up, repair, or replace exposed concrete except upon express direction of Architect/Engineer for each individual area.

3.11 PROTECTION

- A. Do not permit traffic over unprotected concrete floor surface until fully cured.

END OF SECTION

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SECTION 04 2000 - UNIT MASONRY

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Concrete block.
- B. Clay facing brick.
- C. Common brick.
- D. Mortar and grout.
- E. Reinforcement and anchorage.
- F. Flashings.
- G. Lintels.
- H. Accessories.

1.2 RELATED REQUIREMENTS

- A. Section 03 1000 - Concrete Forming and Accessories: Dovetail slots for masonry anchors.
- B. Section 03 3000 - Cast-in-Place Concrete: Installation of dovetail slots for masonry anchors.
- C. Section 06 1000 - Rough Carpentry: Nailing strips built into masonry.
- D. Section 07 2500 - Weather Barriers: Water-resistive barriers or air barriers applied to the exterior face of the backing sheathing or masonry.
- E. Section 07 6200 - Sheet Metal Flashing and Trim: Through-wall masonry flashings.
- F. Section 07 9200 - Joint Sealants: Sealing control and expansion joints.

1.3 REFERENCE STANDARDS

- A. ASTM A153/A153M - Standard Specification for Zinc Coating (Hot-Dip) on Iron and Steel Hardware 2023.
- B. ASTM A240/A240M - Standard Specification for Chromium and Chromium-Nickel Stainless Steel Plate, Sheet, and Strip for Pressure Vessels and for General Applications 2022b.
- C. ASTM A641/A641M - Standard Specification for Zinc-Coated (Galvanized) Carbon Steel Wire 2019.
- D. ASTM A666 - Standard Specification for Annealed or Cold-Worked Austenitic Stainless Steel Sheet, Strip, Plate, and Flat Bar 2023.
- E. ASTM A951/A951M - Standard Specification for Steel Wire for Masonry Joint Reinforcement 2022.

- F. ASTM A1064/A1064M - Standard Specification for Carbon-Steel Wire and Welded Wire Reinforcement, Plain and Deformed, for Concrete 2022.
- G. ASTM C62 - Standard Specification for Building Brick (Solid Masonry Units Made From Clay or Shale) 2017.
- H. ASTM C67/C67M - Standard Test Methods for Sampling and Testing Brick and Structural Clay Tile 2023.
- I. ASTM C90 - Standard Specification for Loadbearing Concrete Masonry Units 2022.
- J. ASTM C91/C91M - Standard Specification for Masonry Cement 2023.
- K. ASTM C129 - Standard Specification for Nonloadbearing Concrete Masonry Units 2022.
- L. ASTM C140/C140M - Standard Test Methods for Sampling and Testing Concrete Masonry Units and Related Units 2022c.
- M. ASTM C207 - Standard Specification for Hydrated Lime for Masonry Purposes 2018.
- N. ASTM C216 - Standard Specification for Facing Brick (Solid Masonry Units Made from Clay or Shale) 2022.
- O. ASTM C270 - Standard Specification for Mortar for Unit Masonry 2019a, with Editorial Revision.
- P. ASTM C404 - Standard Specification for Aggregates for Masonry Grout 2018.
- Q. ASTM C476 - Standard Specification for Grout for Masonry 2023.
- R. ASTM C780 - Standard Test Method for Preconstruction and Construction Evaluation of Mortars for Plain and Reinforced Unit Masonry 2020.
- S. BIA Technical Notes No. 7 - Water Penetration Resistance – Design and Detailing 2017.
- T. BIA Technical Notes No. 13 - Ceramic Glazed Brick Exterior Walls 2017.
- U. BIA Technical Notes No. 28B - Brick Veneer/Steel Stud Walls 2005.
- V. BIA Technical Notes No. 46 - Maintenance of Brick Masonry 2017.
- W. TMS 402/602 - Building Code Requirements and Specification for Masonry Structures 2022, with Errata.

1.4 SUBMITTALS

- A. See Section 01 3000 - Administrative Requirements, for submittal procedures.
- B. Product Data: Provide data for masonry units, fabricated wire reinforcement, mortar, and masonry accessories.

- C. Shop Drawings: Indicate pertinent dimensions, materials, anchorage, size and type of fasteners, and accessories for brickwork support system.

1.5 DELIVERY, STORAGE, AND HANDLING

- A. Deliver, handle, and store masonry units by means that will prevent mechanical damage and contamination by other materials.

PART 2 PRODUCTS

2.1 CONCRETE MASONRY UNITS

- A. Concrete Block: Comply with referenced standards and as follows:
 - 1. Size: Standard units with nominal face dimensions of 16 by 8 inches and nominal depth of 8 inches.
 - 2. Load-Bearing Units: ASTM C90, normal weight.
 - a. Hollow block, as indicated.
 - 3. Non-Loadbearing Units: ASTM C129.
 - a. Hollow block, as indicated.
 - b. Lightweight.

2.2 BRICK UNITS

- A. Manufacturers:
 - 1. Belden Brick; Belcrest: www.beldenbrick.com/#sle.
 - 2. General Shale Brick: www.generalshale.com/#sle.
- B. Facing Brick: ASTM C216, Type FBS Smooth, Grade SW.
 - 1. Nominal size: As indicated on drawings.
 - 2. Special shapes: Molded units as required by conditions indicated, unless standard units can be sawn to produce equivalent effect.
- C. Building (Common) Brick: ASTM C62, Grade SW; solid units.
 - 1. Nominal size: As indicated on drawings.
 - 2. Compressive strength: measured in accordance with ASTM C67/C67M.

2.3 MORTAR AND GROUT MATERIALS

- A. Masonry Cement: ASTM C91/C91M, Type N.

1. Colored Mortar: Premixed cement as required to match Architect/Engineer's color sample.
- B. Portland Cement: ASTM C150/C150M, Type I; color as required to produce approved color sample.
- C. Hydrated Lime: ASTM C207, Type S.
- D. Grout Aggregate: ASTM C404.
- E. Water: Clean and potable.

2.4 REINFORCEMENT AND ANCHORAGE

- A. Single Wythe Joint Reinforcement: ASTM A951/A951M.
 1. Type: Truss.
 2. Material: ASTM A1064/A1064M steel wire, mill galvanized to ASTM A641/A641M Class 3.
 3. Size: 0.1483 inch side rods with 0.1483 inch cross rods; width as required to provide not less than 5/8 inch of mortar coverage on each exposure.
- B. Multiple Wythe Joint Reinforcement: ASTM A951/A951M.
 1. Type: Truss.
 2. Material: ASTM A1064/A1064M steel wire, mill galvanized to ASTM A641/A641M Class 3.
 3. Size: 0.1483 inch side rods with 0.1483 inch cross rods; width as required to provide not less than 5/8 inch of mortar coverage on each exposure.
- C. Masonry Veneer Anchors: 2-piece anchors that permit differential movement between masonry veneer and structural backup, hot dip galvanized to ASTM A 153/A 153M, Class B.
 1. Anchor plates: Not less than 0.075 inch thick, designed for fastening to structural backup through sheathing by two fasteners; provide design with legs that penetrate sheathing and insulation to provide positive anchorage.
 2. Wire ties: Manufacturer's standard shape, 0.1875 inch thick.
 3. Vertical adjustment: Not less than 3-1/2 inches.

2.5 FLASHINGS

- A. Metal Flashing Materials:
 1. Stainless Steel Flashing: ASTM A666, Type 304, soft temper; 26 gage, 0.0187 inch thick; finish 2B to 2D.

- B. Copper/Polymer Film or Fabric Flashing - Self-Adhering: 3 oz/sq ft copper sheet bonded on inward facing side to a sheet of polymer or fiberglass fabric that has a clear adhesive with a removable release liner.
- C. Stainless Steel/Polymer Fabric Flashing - Self-adhering: ASTM A240/A240M; 2 mil type 304 stainless steel sheet bonded on inward facing side to a sheet of polymer fabric that has a clear adhesive with a removable release liner.
- D. Flashing Sealant/Adhesives: Silicone, polyurethane, or silyl-terminated polyether/polyurethane or other type required or recommended by flashing manufacturer; type capable of adhering to type of flashing used.
- E. Drip Edge: Stainless steel; angled drip with hemmed edge; compatible with membrane and adhesives.
- F. Lap Sealants and Tapes: As recommended by flashing manufacturer; compatible with membrane and adhesives.

2.6 ACCESSORIES

- A. Cavity Mortar Control: Semi-rigid polyethylene or polyester mesh panels, sized to thickness of wall cavity, and designed to prevent mortar droppings from clogging weeps and cavity vents and allow proper cavity drainage.
 - 1. Mortar Diverter: Semi-rigid mesh designed for installation at flashing locations.
- B. Weeps:
- C. Type: Polyester mesh.
- D. Color(s): As selected by Architect/Engineer from manufacturer's full range.
- E. Cleaning Solution: Non-acidic, not harmful to masonry work or adjacent materials.

2.7 LINTELS

- A. Brickwork Support System: Offset steel relief angles or lintels with hanger brackets for support of brickwork above horizontal masonry joints and openings to allow insulation to span continuously behind brick and eliminate continuous thermal bridges associated with support systems that interrupt continuous insulation.
 - 1. Materials: Steel, hot dip galvanized to ASTM A153/A153M class B.

2.8 MORTAR AND GROUT MIXING

- A. Mortar for Unit Masonry: ASTM C270, using the Proportion Specification.
 - 1. Masonry below grade and in contact with earth: Type S.
 - 2. Exterior, loadbearing masonry: Type N.

- B. New Mortar for Old Brick: Proportion by volume only; no more than 20 percent of the total volume of Portland cement and lime combined to be Portland cement.
 - 1. Repointing Mortar: Use proportions from 1 part lime to 2 parts sand with no Portland cement, up to 2 parts Portland cement to 3 parts lime to 6 parts sand.
- C. Grout: ASTM C476; consistency required to fill completely volumes indicated for grouting; fine grout for spaces with smallest horizontal dimension of 2 inches or less; coarse grout for spaces with smallest horizontal dimension greater than 2 inches.
- D. Admixtures: Add to mixture at manufacturer's recommended rate and in accordance with manufacturer's instructions; mix uniformly.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Verify that field conditions are acceptable and are ready to receive masonry.
- B. Verify that related items provided under other sections are properly sized and located.
- C. Verify that built-in items are in proper location, and ready for roughing into masonry work.

3.2 PREPARATION

- A. Direct and coordinate placement of metal anchors supplied for installation under other sections.
- B. Provide temporary bracing during installation of masonry work. Maintain in place until building structure provides permanent bracing.

3.3 COLD AND HOT WEATHER REQUIREMENTS

- A. Comply with requirements of TMS 402/602 or applicable building code, whichever is more stringent.

3.4 COURSING

- A. Establish lines, levels, and coursing indicated. Protect from displacement.
- B. Maintain masonry courses to uniform dimension. Form vertical and horizontal joints of uniform thickness.
- C. Concrete Masonry Units:
 - 1. Bond: Running.
 - 2. Coursing: One unit and one mortar joint to equal 8 inches.
 - 3. Mortar Joints: Concave.
- D. Brick Units:

1. Bond: Running bond. Stacked bond and soldier course as indicated on the drawings.
2. Coursing: Three units and three mortar joints to equal 8 inches.
3. Mortar Joints: Concave.

3.5 PLACING AND BONDING

- A. Lay solid masonry units in full bed of mortar, with full head joints, uniformly jointed with other work.
- B. Buttering corners of joints or excessive furrowing of mortar joints is not permitted.
- C. Remove excess mortar and mortar smears as work progresses.
- D. Interlock intersections and external corners, except for units laid in stack bond.

3.6 WEEPS/CAVITY VENTS

- A. Install weeps in veneer and cavity walls at 24 inches on center horizontally on top of through-wall flashing above shelf angles and lintels and at bottom of walls.

3.7 CAVITY MORTAR CONTROL

- A. Do not permit mortar to drop or accumulate into cavity air space or to plug weep/cavity vents.
- B. For cavity walls, build inner wythe ahead of outer wythe to accommodate accessories.
- C. Install cavity mortar control panels continuously throughout full height of exterior masonry cavities during construction of exterior wythe, complying with manufacturer's installation instructions.
- D. Install cavity mortar diverter at base of cavity and at other flashing locations as recommended by manufacturer to prevent mortar droppings from blocking weep/cavity vents.

3.8 REINFORCEMENT AND ANCHORAGE - GENERAL, SINGLE WYTHE MASONRY, AND CAVITY WALL MASONRY

- A. Unless otherwise indicated on drawings or specified under specific wall type, install horizontal joint reinforcement 16 inches on center.
- B. Place masonry joint reinforcement in first and second horizontal joints above and below openings. Extend minimum 16 inches each side of opening.
- C. Place continuous joint reinforcement in first and second joint below top of walls.
- D. Lap joint reinforcement ends minimum 6 inches.
- E. Reinforce stack bonded unit joint corners and intersections with strap anchors 16 inches on center.

3.9 REINFORCEMENT AND ANCHORAGE - MASONRY VENEER

- A. Masonry Back-Up: Embed anchors to bond veneer at maximum 16 inches on center vertically and 36 inches on center horizontally. Place additional anchors at perimeter of openings and ends of panels, so maximum spacing of anchors is 8 inches on center.

3.10 MASONRY FLASHINGS

- A. Whether or not specifically indicated, install masonry flashing to divert water to exterior at all locations where downward flow of water will be interrupted.
 - 1. Remove or cover protrusions or sharp edges that could puncture flashings.
 - 2. Seal lapped ends and penetrations of flashing before covering with mortar.
- B. Terminate flashing up 8 inches minimum on vertical surface of backing:
 - 1. Install vertical leg of flashing behind water-resistive barrier sheet over backing.
 - 2. Install vertical leg of flashing over fluid-applied or self-adhered air/vapor barriers over backing or per manufacturer's directions.
 - 3. Anchor vertical leg of flashing into backing with a termination bar and sealant.
 - 4. Apply cap bead of sealant on top edge of self-adhered flashing.
- C. Install flashing in accordance with manufacturer's instructions and BIA Technical Notes No. 7.
- D. Extend metal flashings to within 1/2 inch of exterior face of masonry and adhere to top of stainless steel angled drip with hemmed edge.
- E. Lap end joints of flashings at least 6 inches, minimum, and seal watertight with flashing sealant/adhesive.

3.11 LINTELS

- A. Install loose steel lintels over openings.
- B. Install reinforced unit masonry lintels over openings where steel or precast concrete lintels are not scheduled.
 - 1. Openings to 42 inches: Place two, No. 3 reinforcing bars 1 inch from bottom web.
 - 2. Openings from 42 inches to 78 inches: Place two, No. 5 reinforcing bars 1 inch from bottom web.
 - 3. Do not splice reinforcing bars.
 - 4. Support and secure reinforcing bars from displacement. Maintain position within 1/2 inch of dimensioned position.
 - 5. Place and consolidate grout fill without displacing reinforcing.
 - 6. Allow masonry lintels to attain specified strength before removing temporary supports.

- C. Maintain minimum 8 inch bearing on each side of opening.
- D. Install thermal brick support system in accordance with manufacturer's instructions at locations indicated on drawings

3.12 GROUTED COMPONENTS

- A. Reinforce bond beams with 2, bars, 1 inch from bottom web.
- B. Place and consolidate grout fill without displacing reinforcing.
- C. At bearing locations, fill masonry cores with grout for a minimum 12 inches either side of opening.

3.13 TOLERANCES

- A. Install masonry within the site tolerances found in TMS 402/602.
- B. Maximum Variation From Unit to Adjacent Unit: 1/16 inch.
- C. Maximum Variation from Plane of Wall: 1/4 inch in 10 ft and 1/2 inch in 20 ft or more.
- D. Maximum Variation from Plumb: 1/4 inch per story non-cumulative; 1/2 inch in two stories or more.

3.14 CUTTING AND FITTING

- A. Cut and fit for chases. Coordinate with other sections of work to provide correct size, shape, and location.
- B. Obtain approval prior to cutting or fitting masonry work not indicated or where appearance or strength of masonry work may be impaired.

3.15 FIELD QUALITY CONTROL

- A. Clay Masonry Unit Tests: Test each variety of clay masonry in accordance with ASTM C67/C67M requirements, sampling 5 randomly chosen units for each 50,000 installed.
- B. Concrete Masonry Unit Tests: Test each variety of concrete unit masonry in accordance with ASTM C140/C140M for compliance with requirements of this specification.
- C. Mortar Tests: Test each type of mortar in accordance with ASTM C780, testing with same frequency as masonry samples.

3.16 CLEANING

- A. Remove excess mortar and mortar droppings.
- B. Clean soiled surfaces with cleaning solution.

3.17 PROTECTION

END OF SECTION

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SECTION 06 1000 - ROUGH CARPENTRY

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Sheathing.
- B. Underlayment.
- C. Roof sheathing with factory applied roofing underlayment.

1.2 RELATED REQUIREMENTS

1.3 REFERENCE STANDARDS

- A. ASTM A153/A153M - Standard Specification for Zinc Coating (Hot-Dip) on Iron and Steel Hardware 2023.
- B. AWPA U1 - Use Category System: User Specification for Treated Wood 2023.
- C. PS 2 - Performance Standard for Wood Structural Panels 2018.
- D. PS 20 - American Softwood Lumber Standard 2021.

1.4 SUBMITTALS

- A. See Section 01 3000 - Administrative Requirements, for submittal procedures.
- B. Product Data: Provide technical data on wood preservative materials and application instructions.

1.5 WARRANTY

- A. See Section 01 7800 - Closeout Submittals, for additional warranty requirements.

PART 2 PRODUCTS

2.1 GENERAL REQUIREMENTS

- A. Dimension Lumber: Comply with PS 20 and requirements of specified grading agencies.
 - 1. If no species is specified, provide any species graded by the agency specified; if no grading agency is specified, provide lumber graded by any grading agency meeting the specified requirements.
 - 2. Grading Agency: Any grading agency whose rules are approved by the Board of Review, American Lumber Standard Committee (www.alsc.org) and who provides grading service for the species and grade specified; provide lumber stamped with grade mark unless otherwise indicated.

2.2 CONSTRUCTION PANELS

A. Roof Sheathing: Oriented strand board wood structural panel; PS 2.

1. Grade: Structural 1 Sheathing.
2. Bond Classification: Exposure 1.
3. Performance Category: 5/8 PERF CAT.
4. Span Rating: 40/20.
5. Edges: Square.

B. Wall Sheathing: Any PS 2 type.

1. Bond Classification: Exterior.
2. Grade: Structural I Sheathing.
3. Span Rating: 24.
4. Performance Category: 5/16 PERF CAT.
5. Edge Profile: Square edge.

2.3 ACCESSORIES

A. Fasteners and Anchors:

1. Metal and Finish: Hot-dipped galvanized steel complying with ASTM A153/A153M for high humidity and preservative-treated wood locations, unfinished steel elsewhere.

B. Building Paper: Water resistant Kraft paper.

2.4 FACTORY WOOD TREATMENT

A. Treated Lumber and Plywood: Comply with requirements of AWPA U1 - Use Category System for wood treatments determined by use categories, expected service conditions, and specific applications.

1. Preservative-Treated Wood: Provide lumber and plywood marked or stamped by an ALSC-accredited testing agency, certifying level and type of treatment in accordance with AWPA standards.

B. Preservative Treatment:

1. Preservative Pressure Treatment of Lumber Above Grade: AWPA U1, Use Category UC3B, Commodity Specification A using waterborne preservative.
 - a. Kiln dry lumber after treatment to maximum moisture content of 19 percent.
 - b. Treat lumber in contact with roofing or flashing.
 - c. Treat lumber in contact with masonry or concrete.

2. Preservative Pressure Treatment of Plywood Above Grade: AWP A U1, Use Category UC2 and UC3B, Commodity Specification F using waterborne preservative.
 - a. Kiln dry plywood after treatment to maximum moisture content of 19 percent.
 - b. Treat plywood in contact with roofing or flashing.
 - c. Treat plywood in contact with masonry or concrete.

PART 3 EXECUTION

3.1 INSTALLATION - GENERAL

- A. Select material sizes to minimize waste.
- B. Reuse scrap to the greatest extent possible; clearly separate scrap for use on site as accessory components, including: shims, bracing, and blocking.
- C. Where treated wood is used on interior, provide temporary ventilation during and immediately after installation sufficient to remove indoor air contaminants.

3.2 BLOCKING, NAILERS, AND SUPPORTS

- A. Provide framing and blocking members as indicated or as required to support finishes, fixtures, specialty items, and trim.
- B. Provide the following specific non-structural framing and blocking:
 1. Wall brackets.
 2. Wall paneling and trim.

3.3 INSTALLATION OF CONSTRUCTION PANELS

- A. Wall Sheathing: Secure with long dimension perpendicular to wall studs, with ends over firm bearing and staggered, using nails, screws, or staples.

3.4 CLEANING

- A. Waste Disposal:
 1. Comply with applicable regulations.
 2. Do not burn scrap on project site.
 3. Do not burn scraps that have been pressure treated.
 4. Do not send materials treated with pentachlorophenol, CCA, or ACA to co-generation facilities or "waste-to-energy" facilities.
- B. Do not leave any wood, shavings, sawdust, etc. on the ground or buried in fill.
- C. Prevent sawdust and wood shavings from entering the storm drainage system.

END OF SECTION

SECTION 06 1753 - SHOP-FABRICATED WOOD TRUSSES

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Shop fabricated wood trusses for roof framing.
- B. Bridging, bracing, and anchorage.

1.2 RELATED REQUIREMENTS

- A. Section 06 1000 - Rough Carpentry: Installation requirements for miscellaneous framing and sheathing.
- B. Section 06 1000 - Rough Carpentry: Material requirements for blocking, bridging, plates, and miscellaneous framing.

1.3 REFERENCE STANDARDS

- A. ASTM A653/A653M - Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process 2023.
- B. SPIB (GR) - Standard Grading Rules 2021.
- C. TPI 1 - National Design Standard for Metal-Plate-Connected Wood Truss Construction 2014.
- D. TPI BCSI 1 - Building Component Safety Information Booklet: The Guide to Good Practice for Handling, Installing & Bracing of Metal Plate Connected Wood Trusses 2018.
- E. TPI DSB-89 - Recommended Design Specification for Temporary Bracing of Metal Plate Connected Wood Trusses 1989.

1.4 SUBMITTALS

- A. See Section 01 3000 - Administrative Requirements, for submittal procedures.
- B. Product Data: Manufacturer's data sheets on plate connectors, bearing plates, and metal bracing components.
- C. Shop Drawings: Show truss configurations, sizes, spacing, size and type of plate connectors, cambers, framed openings, bearing and anchor details, and temporary & permanent bridging & bracing.
 - 1. Include identification of engineering software used for design.
 - 2. Submit design calculation sealed by design engineer.
- D. Designer's Qualification Statement.

1.5 QUALITY ASSURANCE

- A. Designer Qualifications: Perform design by or under direct supervision of a Professional Engineer experienced in design of this Work and licensed in the Commonwealth of Virginia.

1.6 DELIVERY, STORAGE, AND HANDLING

- A. Handle and erect trusses in accordance with TPI BCSI 1.
- B. Store trusses in vertical position resting on bearing ends.

PART 2 PRODUCTS

2.1 TRUSSES

- A. Wood Trusses: Designed and fabricated in accordance with TPI 1 and TPI DSB-89 to achieve structural requirements indicated.
 - 1. Species and Grade: Southern Pine, SPIB (GR) Grade No. 2 or better.
 - 2. Connectors: Steel plate.
 - 3. Structural Design: Comply with 2018 Virginia Building Code for structural loading criteria and loads indicated.
 - 4. Roof Deflection: $1/240$, maximum.

2.2 MATERIALS

- A. Lumber:
 - 1. Moisture Content: Between 7 and 9 percent.
 - 2. Lumber fabricated from old growth timber is not permitted.
- B. Steel Connectors: Hot-dipped galvanized steel sheet, ASTM A653/A653M Structural Steel (SS) Grade 33/230, with G60/Z180 coating; die stamped with integral teeth; thickness as indicated.
- C. Truss Bridging: Type, size and spacing recommended by truss manufacturer.

2.3 ACCESSORIES

- A. Wood Blocking, Bridging, Plates, and Miscellaneous Framing: Softwood lumber, any species, construction grade, 19 percent maximum and 7 percent minimum moisture content.
- B. Fasteners: Plain steel, type to suit application.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Verify that field measurements are as indicated.
- B. Verify that supports and openings are ready to receive trusses.

3.2 PREPARATION

- A. Coordinate placement of bearing items.

3.3 ERECTION

- A. Install trusses in accordance with manufacturer's instructions and TPI DSB-89 and TPI BCSI 1; maintain a copy of each TPI document on site until installation is complete.
- B. Set members level and plumb, in correct position.
- C. Make provisions for erection loads, and for sufficient temporary bracing to maintain structure plumb, and in true alignment until completion of erection and installation of permanent bracing.
- D. Do not field cut or alter structural members without approval of Architect/Engineer.
- E. Install permanent bridging and bracing.
- F. Install headers and supports to frame openings required.
- G. Frame openings between trusses with lumber in accordance with Section 06 1000.
- H. Coordinate placement of decking with work of this section.

3.4 TOLERANCES

- A. Framing Members: 1/2 inch maximum, from true position.

END OF SECTION

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SECTION 06 6100 - CAST POLYMER FABRICATIONS

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Cast fiberglass and polyurethane architectural decorative brackets.

1.2 REFERENCE STANDARDS

1.3 SUBMITTALS

- A. See Section 01 3000 - Administrative Requirements, for submittal procedures.
- B. Shop Drawings: Indicate dimensions, thicknesses, required clearances, tolerances, materials, colors, finishes, fabrication details, field jointing, adjacent construction, design load parameters, methods of support, integration of plumbing components, and anchorages.
- C. Product Data: Provide data on cast fabricated units.

1.4 WARRANTY

- A. See Section 01 7800 - Closeout Submittals, for additional warranty requirements.
- B. Correct defective Work within a five year period after Date of Substantial Completion.

PART 2 PRODUCTS

2.1 MANUFACTURERS

- A. Exterior Polyurethane Exterior Millwork:
 - 1. Products:
 - a. Ekena Millwork; ekenamillwork.com.
 - b. Substitutions: See Section 01 6000 - Product Requirements.

2.2 MATERIALS

- A. High density polyurethane.
- B. Provide primer coat factory finish.
- C. Compressive Strength: 300-400 psi.
- D. Tensile Strength: 350-400 psi.
- E. Closed cell structure.
- F. Resistant to growth of mildew and fungus.
- G. Adhesive: As recommended by manufacturer.

2.3 FASTENINGS

- A. Adhesive: As recommended by the manufacturer for application; not containing formaldehyde or other volatile organic compounds.

2.4 FINISH

- A. Color: White color as selected.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Verify that field measurements are as indicated.

3.2 INSTALLATION

- A. Install components in accordance with approved shop drawings and manufacturer's instructions.
- B. Align work plumb and level.
- C. Rigidly anchor to substrate to prevent misalignment.

3.3 CLEANING

3.4 PROTECTION

- A. Protect installed from subsequent construction operations.

END OF SECTION

SECTION 07 2500 - WEATHER BARRIERS

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Water-Resistive Barrier: Under exterior wall cladding, over sheathing or other substrate; not air tight or vapor retardant.

1.2 RELATED REQUIREMENTS

- A. Section 07 9200 - Joint Sealants: Sealing building expansion joints.

1.3 REFERENCE STANDARDS

- A. ASTM D1970/D1970M - Standard Specification for Self-Adhering Polymer Modified Bituminous Sheet Materials Used as Steep Roofing Underlayment for Ice Dam Protection 2021.

1.4 SUBMITTALS

- A. See Section 01 3000 - Administrative Requirements, for submittal procedures.
- B. Product Data: Provide data on material characteristics.

PART 2 PRODUCTS

2.1 AIR BARRIER MATERIALS (WATER VAPOR PERMEABLE AND WATER-RESISTIVE)

- A. Air Barrier, Fluid Applied: Vapor permeable, elastomeric waterproofing.
 - 1. Air Barrier Coating:
 - a. Material: Silica-fortified rubber.
 - b. Dry Film Thickness (DFT): 10 mil, 0.010 inch, minimum.
 - c. Air Permeance: 0.001 cubic feet per minute per square foot, maximum, when tested in accordance with ASTM E2178.
 - d. Water Vapor Permeance: 18 perms, minimum, when tested in accordance with ASTM E96/E96M, Procedure B.
 - e. Ultraviolet (UV) and Weathering Resistance: Approved in writing by manufacturer for up to six months of weather exposure after application.
 - f. Elongation: 300 percent, minimum, when tested in accordance with ASTM D412.
 - g. Surface Burning Characteristics: Flame spread index of 25 or less, smoke developed index of 450 or less, when tested in accordance with ASTM E84.
 - h. Complies with NFPA 285 wall assembly requirements.
 - i. Nail Sealability: Pass, when tested in accordance with ASTM D1970/D1970M.

- j. VOC Content: 100 g per L or less.
- k. Code Acceptance: Comply with applicable requirements of ICC-ES AC212.
- l. Sealants, Tapes and Accessories: As recommended by coating manufacturer.
- m. Manufacturers:
 - 1) 3M Company: www.3M.com/construction/#sle.
 - 2) BASF Corporation; MasterSeal AWB 660: www.master-builders-solutions.basf.us/#sle.
 - 3) Dow Chemical Company; DOWSIL DefendAir 200: consumer.dow.com/en-us/industry/ind-building-construction.html/#sle.
 - 4) DuPont Building Innovations; Tyvek Fluid Applied WB+ with Tyvek Fluid Applied Flashing and Joint Compound, Sealant for Tyvek Fluid Applied System and StraightFlash: www.dupont.com/#sle.

2.2 ACCESSORIES

- A. Sealants, Tapes, and Accessories for Sealing Weather Barrier and Sealing Weather Barrier to Adjacent Substrates: As specified or as recommended by weather barrier manufacturer.
- B. Flexible Flashing: Self-adhesive sheet flashing complying with ASTM D1970/D1970M, except slip resistance requirement is waived if not installed on a roof.
- C. Flexible Flashing: Sheathing fabric saturated with air barrier coating and complying with the applicable requirements of ICC-ES AC148.

PART 3 EXECUTION

3.1 EXAMINATION

3.2 PREPARATION

- A. Remove projections, protruding fasteners, and loose or foreign matter that might interfere with proper installation.

3.3 INSTALLATION

3.4 PROTECTION

- A. Do not leave materials exposed to weather longer than recommended by manufacturer.

END OF SECTION

SECTION 07 4113 - METAL ROOF PANELS

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Architectural roofing system of preformed steel panels.
- B. Attachment system.
- C. Finishes.
- D. Accessories including fascia, gutters and downspouts.

1.2 RELATED REQUIREMENTS

- A. Section 06 1000 - Rough Carpentry: Roof sheathing.

1.3 REFERENCE STANDARDS

1.4 SUBMITTALS

- A. See Section 01 3000 - Administrative Requirements, for submittal procedures.
- B. Product Data: Manufacturer's data sheets on each product to be used, including:
 - 1. Storage and handling requirements and recommendations.
 - 2. Installation methods.
 - 3. Specimen warranty.
- C. Warranty: Submit specified manufacturer's warranty and ensure that forms have been completed in Owner's name and are registered with manufacturer.

1.5 DELIVERY, STORAGE, AND HANDLING

- A. Provide strippable plastic protection on prefinished roofing panels for removal after installation.
- B. Store roofing panels on project site as recommended by manufacturer to minimize damage to panels prior to installation.

1.6 WARRANTY

- A. See Section 01 7800 - Closeout Submittals, for additional warranty requirements.
- B. Finish Warranty: Provide manufacturer's special warranty covering failure of factory-applied exterior finish on metal roof panels and agreeing to repair or replace panels that show evidence of finish degradation, including significant fading, chalking, cracking, or peeling within specified warranty period of five years from Date of Substantial Completion.

PART 2 PRODUCTS

2.1 MANUFACTURERS

A. Metal Roof Panels:

1. ATAS International, Inc; Colonial Seam: www.atas.com/#sle.
2. Berridge Manufacturing Company; Cee-Lock Panel: www.berridge.com/#sle.
3. Drexel Metals Inc; 100SS Profile: www.drexmet.com/#sle.
4. Petersen Aluminum Corporation; Snap-Clad Panel: www.pac-clad.com/#sle.

B. Substitutions: See Section 01 6000 - Product Requirements.

2.2 ARCHITECTURAL METAL ROOF PANELS

A. Architectural Metal Roofing: Provide complete engineered system complying with specified requirements and capable of remaining weathertight while withstanding anticipated movement of substrate and thermally induced movement of roofing system.

B. Metal Panels: Factory-formed panels with factory-applied finish.

1. Aluminum Panels:

- a. Alloy and Temper: Aluminum complying with ASTM B209 (ASTM B209M); temper as required for forming.
- b. Thickness: Minimum 20 gage (0.032 inch).

2. Profile: Standing seam, with minimum 1.0 inch seam height; concealed fastener system for field seaming with special tool.

3. Texture: Smooth.

4. Length: Full length of roof slope, without lapped horizontal joints.

5. Width: Maximum panel coverage of 24 inches.

2.3 ATTACHMENT SYSTEM

A. Concealed System: Provide manufacturer's standard stainless steel or nylon-coated aluminum concealed anchor clips designed for specific roofing system and engineered to meet performance requirements, including anticipated thermal movement.

2.4 FABRICATION

A. Panels: Provide factory or field fabricated panels and accessory items, using manufacturer's standard processes as required to achieve specified appearance and performance requirements.

2.5 FINISHES

- A. Fluoropolymer Coil Coating System: Manufacturer's standard multi-coat aluminum coil coating system complying with AAMA 2605, including at least 70 percent polyvinylidene fluoride (PVDF) resin, and at least 80 percent of coil coated aluminum surfaces having minimum total dry film thickness (DFT) of 0.9 mil, 0.0009 inch; color and gloss to match sample.

2.6 ACCESSORIES

- A. Miscellaneous Sheet Metal Items: Provide flashings, gutters, downspouts, trim, moldings, closure strips, preformed crickets, caps, and equipment curbs of the same material, thickness, and finish as used for the roofing panels. Items completely concealed after installation may optionally be made of stainless steel.
 - 1. Downspouts: Open face, rectangular profile.
- B. Rib and Ridge Closures: Provide prefabricated, close-fitting components of steel with corrosion resistant finish or combination steel and closed-cell foam.
- C. Sealants:
 - 1. Exposed Sealant: Elastomeric; silicone, polyurethane, or silyl-terminated polyether/polyurethane.
 - 2. Concealed Sealant: Non-curing butyl sealant or tape sealant.
- D. Underlayment: Synthetic non-asphaltic sheet, intended by manufacturer for mechanically fastened roofing underlayment without sealed seams.
 - 1. Type: Woven polypropylene with anti-slip polyolefin coating on both sides.
 - 2. Self Sealability: Passing nail sealability test specified in ASTM D1970/D1970M.
 - 3. Flammability: Minimum of Class A, when tested in accordance with ASTM E108.
 - 4. Low Temperature Flexibility: Passing test specified in ASTM D1970/D1970M.
 - 5. Water Vapor Permeance: Vapor retarder; maximum of 1 perm, when tested in accordance with ASTM E96/E96M Procedure A (desiccant method).
 - 6. Performance: Meet or exceed requirements for ASTM D226/D226M, Type II asphalt-saturated organic felt.
 - 7. Liquid Water Transmission: Passes ASTM D4869/D4869M.
 - 8. Functional Temperature Range: Minus 70 degrees F to 212 degrees F.
 - 9. Fasteners: As specified by manufacturer and building code qualification report or approval.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Do not begin installation of preformed metal roof panels until substrates have been properly prepared.
- B. If substrate preparation is the responsibility of another installer, notify Architect/Engineer of unsatisfactory preparation before proceeding.

3.2 PREPARATION

3.3 INSTALLATION

- A. Overall: Install roofing system in accordance with approved shop drawings and panel manufacturer's instructions and recommendations, as applicable to specific project conditions. Anchor all components of roofing system securely in place while allowing for thermal and structural movement.
 - 1. Install roofing system with concealed clips and fasteners, except as otherwise recommended by manufacturer for specific circumstances.
- B. Accessories: Install all components required for a complete roofing assembly, including flashings, gutters, downspouts, trim, moldings, closure strips, preformed crickets, caps, equipment curbs, rib closures, ridge closures, and similar roof accessory items.
- C. Install roofing felt and building paper slip sheet on roof deck before installing preformed metal roof panels. Secure by methods acceptable to roof panel manufacturer, minimizing use of metal fasteners. Apply from eaves to ridge in shingle fashion, overlapping horizontal joints a minimum of 2 inches and side and end laps a minimum of 3 inches. Offset seams in building paper and seams in roofing felt.

END OF SECTION

SECTION 07 9200 - JOINT SEALANTS

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Nonsag gunnable joint sealants.
- B. Self-leveling pourable joint sealants.
- C. Joint backings and accessories.

1.2 RELATED REQUIREMENTS

- A. Section 07 2500 - Weather Barriers: Sealants required in conjunction with air barriers and vapor retarders.

1.3 REFERENCE STANDARDS

- A. ASTM C661 - Standard Test Method for Indentation Hardness of Elastomeric-Type Sealants by Means of a Durometer 2015 (Reapproved 2022).
- B. ASTM C920 - Standard Specification for Elastomeric Joint Sealants 2018.
- C. ASTM C1193 - Standard Guide for Use of Joint Sealants 2016 (Reapproved 2023).
- D. ASTM C1330 - Standard Specification for Cylindrical Sealant Backing for Use with Cold Liquid-Applied Sealants 2018.
- E. SCAQMD 1168 - Adhesive and Sealant Applications 1989, with Amendment (2022).

1.4 SUBMITTALS

- A. See Section 01 3000 - Administrative Requirements, for submittal procedures.
- B. Product Data for Sealants: Submit manufacturer's technical data sheets for each product to be used, that includes the following.
 - 1. Physical characteristics, including movement capability, VOC content, hardness, cure time, and color availability.
 - 2. List of backing materials approved for use with the specific product.
 - 3. Substrates that product is known to satisfactorily adhere to and with which it is compatible.
 - 4. Substrates the product should not be used on.
- C. Product Data for Accessory Products: Submit manufacturer's technical data sheet for each product to be used, including physical characteristics, installation instructions, and recommended tools.

- D. Color Cards for Selection: Where sealant color is not specified, submit manufacturer's color cards showing standard colors available for selection.

1.5 WARRANTY

- A. See Section 01 7800 - Closeout Submittals, for additional warranty requirements.
- B. Correct defective work within a five year period after Date of Substantial Completion.
- C. Warranty: Include coverage for installed sealants and accessories that fail to achieve watertight seal , exhibit loss of adhesion or cohesion, or do not cure.

PART 2 PRODUCTS

2.1 MANUFACTURERS

- A. Non-Sag Sealants: Permits application in joints on vertical surfaces without sagging or slumping.
 - 1. Dow Chemical Company: consumer.dow.com/en-us/industry/ind-building-construction.html/#sle.
 - 2. Pecora Corporation: www.pecora.com/#sle.
 - 3. Sherwin-Williams Company: www.sherwin-williams.com/#sle.
 - 4. Sika Corporation: www.usa-sika.com/#sle.
 - 5. Tremco Commercial Sealants & Waterproofing: www.tremcosealants.com/#sle.

2.2 JOINT SEALANT APPLICATIONS

- A. Scope:
 - 1. Exterior Joints: Seal open joints, whether or not the joint is indicated on drawings, unless specifically indicated not to be sealed. Exterior joints to be sealed include, but are not limited to, the following items.
 - a. Wall expansion and control joints.
 - b. Joints between door, window, and other frames and adjacent construction.
 - c. Joints between different exposed materials.
 - d. Openings below ledge angles in masonry.
 - e. Other joints indicated below.
 - 2. Interior Joints: Do not seal interior joints unless specifically indicated to be sealed. Interior joints to be sealed include, but are not limited to, the following items.
 - a. Joints between door, window, and other frames and adjacent construction.

- b. Other joints indicated below.
- B. Exterior Joints: Use non-sag non-staining silicone sealant, unless otherwise indicated.
- C. Interior Joints: Use non-sag polyurethane sealant, unless otherwise indicated.
 - 1. Wall and Ceiling Joints in Wet Areas: Non-sag polyurethane sealant for continuous liquid immersion.
 - 2. Floor Joints in Wet Areas: Non-sag polyurethane "non-traffic-grade" sealant suitable for continuous liquid immersion.
 - 3. Joints between Fixtures in Wet Areas and Floors, Walls, and Ceilings: Mildew-resistant silicone sealant; clear.
- D. Interior Wet Areas: restrooms; fixtures in wet areas include plumbing fixtures and countertops.

2.3 JOINT SEALANTS - GENERAL

- A. Sealants and Primers: Provide products having lower volatile organic compound (VOC) content than indicated in SCAQMD 1168.

2.4 NONSAG JOINT SEALANTS

- A. Non-Staining Silicone Sealant: ASTM C920, Grade NS, Uses M and A; not expected to withstand continuous water immersion or traffic.
 - 1. Movement Capability: Plus and minus 50 percent, minimum.
 - 2. Dirt Pick-Up: Reduced dirt pick-up compared to other silicone sealants.
- B. Mildew-Resistant Silicone Sealant: ASTM C920, Grade NS, Uses M and A; single component, mildew resistant; not expected to withstand continuous water immersion or traffic.
 - 1. Color: Clear.
- C. Polyurethane Sealant: ASTM C920, Grade NS, Uses M and A; single component; not expected to withstand continuous water immersion or traffic.
- D. Non-Sag "Traffic-Grade" Polyurethane Sealant: ASTM C920, Grade NS, Uses M and A; single or multi-component; explicitly approved by manufacturer for continuous water immersion and traffic without the necessity to recess sealant below traffic surface.
 - 1. Movement Capability: Plus and minus 25 percent, minimum.
 - 2. Hardness Range: 40 to 50, Shore A, when tested in accordance with ASTM C661.
 - 3. Color: Match adjacent finished surfaces.

2.5 ACCESSORIES

- A. Backer Rod: Cylindrical cellular foam rod with surface that sealant will not adhere to, compatible with specific sealant used, and recommended by backing and sealant manufacturers for specific application.
 - 1. Type for Joints Not Subject to Pedestrian or Vehicular Traffic: ASTM C1330; Type O - Open Cell Polyurethane.
 - 2. Type for Joints Subject to Pedestrian or Vehicular Traffic: ASTM C1330; Type B - Bi-Cellular Polyethylene.
 - 3. Open Cell: 40 to 50 percent larger in diameter than joint width.
 - 4. Closed Cell and Bi-Cellular: 25 to 33 percent larger in diameter than joint width.
- B. Backing Tape: Self-adhesive polyethylene tape with surface that sealant will not adhere to and recommended by tape and sealant manufacturers for specific application.
- C. Masking Tape: Self-adhesive, nonabsorbent, non-staining, removable without adhesive residue, and compatible with surfaces adjacent to joints and sealants.
- D. Joint Cleaner: Non-corrosive and non-staining type, type recommended by sealant manufacturer; compatible with joint forming materials.
- E. Primers: Type recommended by sealant manufacturer to suit application; non-staining.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Verify that joints are ready to receive work.
- B. Verify that backing materials are compatible with sealants.
- C. Verify that backer rods are of the correct size.

3.2 PREPARATION

- A. Remove loose materials and foreign matter that could impair adhesion of sealant.
- B. Clean joints, and prime as necessary, in accordance with manufacturer's instructions.
- C. Perform preparation in accordance with manufacturer's instructions and ASTM C1193.
- D. Mask elements and surfaces adjacent to joints from damage and disfigurement due to sealant work; be aware that sealant drips and smears may not be completely removable.

3.3 INSTALLATION

- A. Perform work in accordance with sealant manufacturer's requirements for preparation of surfaces and material installation instructions.
- B. Perform installation in accordance with ASTM C1193.

- C. Install bond breaker backing tape where backer rod cannot be used.
- D. Install sealant free of air pockets, foreign embedded matter, ridges, and sags, and without getting sealant on adjacent surfaces.
- E. Do not install sealant when ambient temperature is outside manufacturer's recommended temperature range, or will be outside that range during the entire curing period, unless manufacturer's approval is obtained and instructions are followed.
- F. Nonsag Sealants: Tool surface concave, unless otherwise indicated; remove masking tape immediately after tooling sealant surface.

END OF SECTION

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SECTION 08 1113 - HOLLOW METAL DOORS AND FRAMES

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Non-fire-rated hollow metal doors and frames.
- B. Thermally insulated hollow metal doors with frames.

1.2 RELATED REQUIREMENTS

- A. Section 08 7100 - Door Hardware.
- B. Section 09 9113 - Exterior Painting: Field painting.

1.3 REFERENCE STANDARDS

- A. ADA Standards - 2010 ADA Standards for Accessible Design 2010.
- B. ANSI/SDI A250.4 - Test Procedure and Acceptance Criteria for Physical Endurance for Steel Doors, Frames and Frame Anchors 2022.
- C. ANSI/SDI A250.8 - Specifications for Standard Steel Doors and Frames (SDI-100) 2017.
- D. ANSI/SDI A250.10 - Test Procedure and Acceptance Criteria for Prime Painted Steel Surfaces for Steel Doors and Frames 2020.
- E. ASTM A653/A653M - Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process 2023.
- F. ASTM A1008/A1008M - Standard Specification for Steel, Sheet, Cold-Rolled, Carbon, Structural, High-Strength Low-Alloy, High-Strength Low-Alloy with Improved Formability, Required Hardness, Solution Hardened, and Bake Hardenable 2021a.
- G. ASTM A1011/A1011M - Standard Specification for Steel, Sheet and Strip, Hot-Rolled, Carbon, Structural, High-Strength Low-Alloy, High-Strength Low-Alloy with Improved Formability, and Ultra-High Strength 2018a.
- H. BHMA A156.115 - Hardware Preparation in Steel Doors and Frames 2016.
- I. ICC A117.1 - Accessible and Usable Buildings and Facilities 2017.
- J. NAAMM HMMA 830 - Hardware Selection for Hollow Metal Doors and Frames 2002.
- K. NAAMM HMMA 831 - Hardware Locations for Hollow Metal Doors and Frames 2011.
- L. NAAMM HMMA 840 - Guide Specifications For Receipt, Storage and Installation of Hollow Metal Doors and Frames 2017.

1.4 SUBMITTALS

- A. See Section 01 3000 - Administrative Requirements, for submittal procedures.

- B. Product Data: Materials and details of design and construction, hardware locations, reinforcement type and locations, anchorage and fastening methods, and finishes; and one copy of referenced standards/guidelines.
- C. Shop Drawings: Details of each opening, showing elevations, glazing, frame profiles, and any indicated finish requirements.

1.5 DELIVERY, STORAGE, AND HANDLING

- A. Comply with NAAMM HMMA 840 or ANSI/SDI A250.8 (SDI-100) in accordance with specified requirements.
- B. Protect with resilient packaging; avoid humidity build-up under coverings; prevent corrosion and adverse effects on factory applied painted finish.

PART 2 PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

- A. Requirements for Hollow Metal Doors and Frames:
 - 1. Steel Sheet: Comply with one or more of the following requirements; galvanized steel complying with ASTM A653/A653M, cold-rolled steel complying with ASTM A1008/A1008M, or hot-rolled pickled and oiled (HRPO) steel complying with ASTM A1011/A1011M, commercial steel (CS) Type B, for each.
 - 2. Accessibility: Comply with ICC A117.1 and ADA Standards.
 - 3. Exterior Door Top Closures: Flush end closure channel, with top and door faces aligned.
 - 4. Door Edge Profile: Manufacturers standard for application indicated.
 - 5. Typical Door Face Sheets: 2-panel embossed doors. Refer to drawings for elevation. .
 - 6. Hardware Preparations, Selections and Locations: Comply with NAAMM HMMA 830 and NAAMM HMMA 831 or BHMA A156.115 and ANSI/SDI A250.8 (SDI-100) in accordance with specified requirements.
 - 7. Zinc Coating for Typical Interior and/or Exterior Locations: Provide metal components zinc-coated (galvanized) and/or zinc-iron alloy-coated (galvanized) by the hot-dip process in accordance with ASTM A653/A653M, with manufacturer's standard coating thickness, unless noted otherwise for specific hollow metal doors and frames.
 - a. Based on SDI Standards: Provide at least A40/ZF120 (galvanized) when necessary, coating not required for typical interior door applications, and at least A60/ZF180 (galvanized) for corrosive locations.
- B. Combined Requirements: If a particular door and frame unit is indicated to comply with more than one type of requirement, comply with the specified requirements for each type; for instance, an exterior door that is also indicated as being sound-rated must comply with the requirements specified for exterior doors and for sound-rated doors; where two requirements

conflict, comply with the most stringent.

2.2 HOLLOW METAL DOORS

- A. Door Finish: Factory primed and field finished.
- B. Exterior Doors: Thermally insulated.
 - 1. Based on SDI Standards: ANSI/SDI A250.8 (SDI-100).
 - a. Level 1 - Standard-duty.
 - b. Physical Performance Level C, 250,000 cycles; in accordance with ANSI/SDI A250.4.
 - c. Model 2-panel embossed.
 - d. Door Face Metal Thickness: 18 gage, 0.042 inch, minimum.
 - e. Zinc Coating: A-40 galvanized coating; ASTM A653/A653M.
 - 2. Door Core Material: Manufacturer's standard core material/construction and in compliance with requirements.
 - a. Foam Plastic Insulation: Manufacturer's standard board insulation with maximum flame spread index (FSI) of 75, and maximum smoke developed index (SDI) of 450 in accordance with ASTM E84, and completely enclosed within interior of door.
 - 3. Door Thickness: 1-3/4 inch, nominal.

2.3 HOLLOW METAL FRAMES

- A. Comply with standards and/or custom guidelines as indicated for corresponding door in accordance with applicable door frame requirements.
- B. Frame Finish: Factory primed and field finished.
- C. Exterior Door Frames: Knock-down type.
 - 1. Frame Metal Thickness: 18 gage, 0.042 inch, minimum.
 - 2. Weatherstripping: Separate, see Section 08 7100.

2.4 FINISHES

- A. Primer: Rust-inhibiting, complying with ANSI/SDI A250.10, door manufacturer's standard.
- B. Field Finish: Color to be selected by Owner.
- C. Bituminous Coating: Asphalt emulsion or other high-build, water-resistant, resilient coating.

2.5 ACCESSORIES

- A. Grout for Frames: Portland cement grout with maximum 4 inch slump for hand troweling; thinner pumpable grout is prohibited.

- B. Silencers: Resilient rubber, fitted into drilled hole; provide three on strike side of single door, three on center mullion of pairs, and two on head of pairs without center mullions.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Verify existing conditions before starting work.
- B. Verify that opening sizes and tolerances are acceptable.
- C. Verify that finished walls are in plane to ensure proper door alignment.

3.2 PREPARATION

- A. Coat inside of frames to be installed in masonry or to be grouted, with bituminous coating, prior to installation.

3.3 INSTALLATION

- A. Install doors and frames in accordance with manufacturer's instructions and related requirements of specified door and frame standards or custom guidelines indicated.
- B. Coordinate frame anchor placement with wall construction.
- C. Install door hardware as specified in Section 08 7100.

3.4 TOLERANCES

- A. Maximum Diagonal Distortion: 1/16 inch measured with straight edge, corner to corner.

3.5 ADJUSTING

- A. Adjust for smooth and balanced door movement.

3.6 SCHEDULE

- A. Refer to Door and Frame Schedule on the drawings.

END OF SECTION

SECTION 08 7100 - DOOR HARDWARE

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Hardware for hollow metal doors.
- B. Thresholds.
- C. Weatherstripping and gasketing.

1.2 RELATED REQUIREMENTS

- A. Section 06 2000 - Finish Carpentry: Wood door frames.
- B. Section 07 9200 - Joint Sealants: Sealants for setting exterior door thresholds.
- C. Section 08 1113 - Hollow Metal Doors and Frames.

1.3 REFERENCE STANDARDS

- A. ADA Standards - 2010 ADA Standards for Accessible Design 2010.
- B. BHMA A156.1 - Standard for Butts and Hinges 2021.
- C. BHMA A156.2 - Bored and Preassembled Locks and Latches 2022.
- D. BHMA A156.4 - Door Controls - Closers 2019.
- E. BHMA A156.6 - Standard for Architectural Door Trim 2021.
- F. BHMA A156.8 - Door Controls - Overhead Stops and Holders 2021.
- G. BHMA A156.16 - Auxiliary Hardware 2018.
- H. BHMA A156.18 - Materials and Finishes 2020.
- I. BHMA A156.21 - Thresholds 2019.
- J. BHMA A156.22 - Standard for Gasketing 2021.
- K. BHMA A156.26 - Standard for Continuous Hinges 2021.
- L. BHMA A156.36 - Auxiliary Locks 2020.

1.4 ADMINISTRATIVE REQUIREMENTS

- A. Coordinate the manufacture, fabrication, and installation of products that door hardware is installed on.

1.5 SUBMITTALS

- A. See Section 01 3000 - Administrative Requirements, for submittal procedures.

- B. Product Data: Manufacturer's catalog literature for each type of hardware, marked to clearly show products to be furnished for this project, and includes construction details, material descriptions, finishes, and dimensions and profiles of individual components.
- C. Shop Drawings - Door Hardware Schedule: Submit detailed listing that includes each item of hardware to be installed on each door. Use door numbering scheme as included in Contract Documents.
 - 1. Provide complete description for each door listed.

1.6 WARRANTY

- A. See Section 01 7800 - Closeout Submittals, for additional warranty requirements.
- B. Warranty against defects in material and workmanship for period indicated, from Date of Substantial Completion.
 - 1. Closers: Five years, minimum.
 - 2. Locksets and Cylinders: Three years, minimum.
 - 3. Other Hardware: Two years, minimum.

PART 2 PRODUCTS

2.1 DESIGN AND PERFORMANCE CRITERIA

- A. Provide specified door hardware as required to make doors fully functional, compliant with applicable codes, and secure to extent indicated.
- B. Provide individual items of single type, of same model, and by same manufacturer.
- C. Provide door hardware products that comply with the following requirements:
 - 1. Applicable provisions of federal, state, and local codes.

2.2 HINGES

- A. Hinges: Comply with BHMA A156.1, Grade 1.
 - 1. Continuous Hinges: Comply with BHMA A156.26.
 - 2. Provide hinges on every swinging door.

2.3 LOCK CYLINDERS

- A. Lock Cylinders: Provide key access on outside of each lock, unless otherwise indicated.
 - 1. Provide cylinders from same manufacturer as locking device.
 - 2. Provide cams and/or tailpieces as required for locking devices.

2.4 CYLINDRICAL LOCKS

A. Manufacturers:

1. Corbin Russwin, Sargent, or Yale; an Assa Abloy Group company:
www.assaabloydss.com/#sle.
2. Best, dormakaba Group: www.bestaccess.com/#sle.
3. Schlage, an Allegion brand: www.allegion.com/us/#sle.

B. Cylindrical Locks (Bored): Comply with BHMA A156.2, Grade 1, 4000 Series.

1. Bored Hole: 2-1/8 inch diameter.
2. Latchbolt Throw: 1/2 inch, minimum.
3. Backset: 2-3/4 inch unless otherwise indicated.
4. Strikes: Provide manufacturer's standard strike for each latchset or lockset with strike box and curved lip extending to protect frame in compliance with indicated requirements.
 - a. Finish: To match lock or latch.

2.5 AUXILIARY LOCKS (DEADLOCKS)

A. Auxiliary Locks (Deadlocks): Comply with BHMA A156.36, Grade 1.

1. Type: Bored (cylindrical).
2. Application: Bored.
3. Backset: 2-3/4 inch, unless otherwise indicated.
4. Bolt Throw: 1/2 inch, with latch made of hardened steel.

2.6 DOOR PULLS AND PUSH PLATES

A. Door Pulls and Push Plates: Comply with BHMA A156.6.

1. Pull Type: Straight, unless otherwise indicated.
2. Push Plate Type: Flat, with square corners, unless otherwise indicated.
 - a. Edges: Beveled, unless otherwise indicated.
3. Material: Aluminum, unless otherwise indicated.

2.7 CLOSERS

A. Manufacturers; Surface Mounted:

1. Corbin Russwin, Norton, Rixson, Sargent, or Yale; an Assa Abloy Group company:
www.assaabloydss.com/#sle.

2. DORMA USA, Inc; 7400 Series, 8600 Series, 8900 Series, and TS93: www.dorma.com/#sle.
- B. Closers: Comply with BHMA A156.4, Grade 1.
1. Type: Surface mounted to door.
 2. Provide door closer on each exterior door.
 3. At outswinging exterior doors, mount closer on interior side of door.

2.8 OVERHEAD STOPS AND HOLDERS

- A. Overhead Stops and Holders (Door Checks): Comply with BHMA A156.8, Grade 1.
1. Provide stop for every swinging door, unless otherwise indicated.

2.9 KICK PLATES

- A. Kick Plates: Provide along bottom edge of push side of every door with closer.
1. Size: 8 inch high by 2 inch less door width (LDW) on push side of door.

2.10 WALL STOPS

- A. Manufacturers:
1. Rockwood; an Assa Abloy Group company: www.assaabloydss.com/#sle.
- B. Wall Stops: Comply with BHMA A156.16, Grade 1 and Resilient Material Retention Test as described in this standard.
1. Type: Bumper, concave, wall stop.
 2. Material: Aluminum housing with rubber insert.

2.11 THRESHOLDS

- A. Manufacturers:
1. Pemko; an Assa Abloy Group company: www.assaabloydss.com/#sle.
 2. Hager Companies: www.hagerco.com/#sle.
 3. National Guard Products, Inc: www.ngpinc.com/#sle.
- B. Thresholds: Comply with BHMA A156.21.
1. Provide threshold at each exterior door, unless otherwise indicated.
 2. Type: Flat surface.
 3. Material: Aluminum.

4. Threshold Surface: Fluted horizontal grooves across full width.
5. Field cut threshold to profile of frame and width of door sill for tight fit.
6. Provide non-corroding fasteners at exterior locations.

2.12 WEATHERSTRIPPING AND GASKETING

- A. Manufacturers:
 1. Pemko; an Assa Abloy Group company: www.assaabloydss.com/#sle.
 2. Hager Companies: www.hagerco.com/#sle.
 3. National Guard Products, Inc: www.ngpinc.com/#sle.
- B. Weatherstripping and Gasketing: Comply with BHMA A156.22.
 1. Head and Jamb Type: Adjustable.
 2. Door Sweep Type: Encased in retainer.
 3. Material: Aluminum, with brush weatherstripping.

2.13 SILENCERS

- A. Silencers: Provide at equal locations on door frame to mute sound of door's impact upon closing.
 1. Single Door: Provide three on strike jamb of frame.
 2. Pair of Doors: Provide two on head of frame, one for each door at latch side.
 3. Material: Rubber, gray color.

2.14 FINISHES

- A. Finishes: Provide door hardware of same finish, unless otherwise indicated.
 1. Primary Finish: 625; bright chromium plated over nickel, with brass or bronze base material (former US equivalent US26); BHMA A156.18.
 2. Finish: 626; satin chromium plated over nickel, with brass or bronze base material (former US equivalent US26D); BHMA A156.18.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Verify that doors and frames are ready to receive this work; labeled, fire-rated doors and frames are properly installed, and dimensions are as indicated on shop drawings.

3.2 INSTALLATION

- A. Install hardware in accordance with manufacturer's instructions and applicable codes.
- B. Use templates provided by hardware item manufacturer.
- C. Door Hardware Mounting Heights: Distance from finished floor to center line of hardware item. As indicated in following list; unless noted otherwise in Door Hardware Schedule or on drawings.
 - 1. For Steel Doors and Frames: Refer to Section 08 1113.
 - 2. Mounting heights in compliance with ADA Standards:
 - a. Locksets: 40-5/16 inch.
 - b. Push Plates/Pull Bars: 42 inch.
 - c. Deadlocks (Deadbolts): 48 inch.
- D. Set exterior door thresholds with full-width bead of elastomeric sealant at each point of contact with floor providing a continuous weather seal; anchor thresholds with stainless steel countersunk screws.

3.3 ADJUSTING

- A. Adjust work under provisions of Section 01 7000 - Execution and Closeout Requirements.
- B. Adjust hardware for smooth operation.
- C. Adjust gasketing for complete, continuous seal; replace if unable to make complete seal.

3.4 CLEANING

- A. Clean finished hardware in accordance with manufacturer's written instructions after final adjustments have been made.
- B. Clean adjacent surfaces soiled by hardware installation.
- C. Replace items that cannot be cleaned to manufacturer's level of finish quality at no additional cost.

3.5 PROTECTION

- A. Protect finished Work under provisions of Section 01 7000 - Execution and Closeout Requirements.
- B. Do not permit adjacent work to damage hardware or finish.

END OF SECTION

SECTION 09 2116 - GYPSUM BOARD ASSEMBLIES

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Metal channel ceiling framing.
- B. Gypsum wallboard.
- C. Joint treatment and accessories.

1.2 RELATED REQUIREMENTS

- A. Section 06 1000 - Rough Carpentry: Wood blocking product and execution requirements.
- B. Section 07 9200 - Joint Sealants: Sealing acoustical gaps in construction other than gypsum board or plaster work.

1.3 REFERENCE STANDARDS

- A. ASTM C475/C475M - Standard Specification for Joint Compound and Joint Tape for Finishing Gypsum Board 2017 (Reapproved 2022).
- B. ASTM C840 - Standard Specification for Application and Finishing of Gypsum Board 2020.
- C. ASTM C1047 - Standard Specification for Accessories for Gypsum Wallboard and Gypsum Veneer Base 2019.
- D. ASTM C1396/C1396M - Standard Specification for Gypsum Board 2017.
- E. ASTM D3273 - Standard Test Method for Resistance to Growth of Mold on the Surface of Interior Coatings in an Environmental Chamber 2021.
- F. GA-216 - Application and Finishing of Gypsum Panel Products 2021.

1.4 SUBMITTALS

- A. See Section 01 3000 - Administrative Requirements, for submittal procedures.
- B. Product Data: Provide data on gypsum board, accessories, and joint finishing system.

PART 2 PRODUCTS

2.1 BOARD MATERIALS

- A. Gypsum Wallboard: Paper-faced gypsum panels as defined in ASTM C1396/C1396M; sizes to minimize joints in place; ends square cut.
 - 1. Application: Use for ceilings, unless otherwise indicated.
 - 2. Mold Resistance: Score of 10, when tested in accordance with ASTM D3273.

- a. Mold resistant board is required at all locations.
- 3. Thickness:
 - a. Ceilings: 5/8 inch.
- 4. Mold Resistant Paper Faced Products:
 - a. American Gypsum Company; M-Bloc.
 - b. CertainTeed Corporation; M2Tech 1/2" Moisture & Mold Resistant Drywall.
 - c. Continental Building Products; Mold Defense.
 - d. Georgia-Pacific Gypsum; ToughRock Mold-Guard.
 - e. National Gypsum Company; Gold Bond XP Gypsum Board.
- B. Exterior Sheathing Board: As specified in Section 06 1000.

2.2 GYPSUM WALLBOARD ACCESSORIES

- A. Beads, Joint Accessories, and Other Trim: ASTM C1047, rigid plastic, galvanized steel, or rolled zinc, unless noted otherwise.
- B. Joint Materials: ASTM C475/C475M and as recommended by gypsum board manufacturer for project conditions.
 - 1. Fiberglass Tape: 2 inch wide, coated glass fiber tape for joints and corners, except as otherwise indicated.
 - 2. Joint Compound: Setting type, field-mixed.
- C. Screws for Fastening of Gypsum Panel Products to Wood Members: ASTM C1002; self-piercing tapping screws, corrosion resistant.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Verify that project conditions are appropriate for work of this section to commence.

3.2 BOARD INSTALLATION

- A. Comply with ASTM C840, GA-216, and manufacturer's instructions. Install to minimize butt end joints, especially in highly visible locations.
- B. Single-Layer Non-Rated: Install gypsum board in most economical direction, with ends and edges occurring over firm bearing.

3.3 INSTALLATION OF TRIM AND ACCESSORIES

- A. Control Joints: Place control joints consistent with lines of building spaces and as indicated.

- B. Corner Beads: Install at external corners, using longest practical lengths.

3.4 JOINT TREATMENT

- A. Paper Faced Gypsum Board: Use paper joint tape, embed with drying type joint compound and finish with drying type joint compound.
- B. Finish gypsum board in accordance with levels defined in ASTM C840, as follows:
 - 1. Level 4: Walls and ceilings to receive paint finish or wall coverings, unless otherwise indicated.
- C. Tape, fill, and sand exposed joints, edges, and corners to produce smooth surface ready to receive finishes.
 - 1. Feather coats of joint compound so that camber is maximum 1/32 inch.

3.5 TOLERANCES

END OF SECTION

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SECTION 09 9120 - PAINTING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. This Section includes surface preparation and field painting of exposed exterior and interior items and surfaces.
 - 1. Surface preparation, priming, and finish coats specified in this Section are in addition to shop priming and surface treatment specified in other Sections.
- B. Paint exposed surfaces, except where the paint schedules indicate that a surface or material is not to be painted or is to remain natural. If an item or a surface is not specifically mentioned, paint the item or surface the same as similar adjacent materials or surfaces. If a color of finish is not indicated, Architect will select from standard colors and finishes available.
 - 1. Painting includes field painting of exposed bare and covered (insulated) pipes and ducts, registers, grilles, etc. (including color coding), hangers, exposed steel and iron supports, and surfaces of mechanical and electrical equipment that do not have a factory-applied final finish that are in full public view.
- C. Do not paint pre-finished items, concealed surfaces, finished metal surfaces, operating parts, and labels.
 - 1. Finished metal surfaces include the following:
 - a. Anodized aluminum.
 - b. Stainless steel.
 - c. Chromium plate.
 - 2. Operating parts include moving parts of operating equipment and the following:
 - a. Valve and damper operators.
 - b. Linkages.
 - c. Sensing devices.
 - d. Motor and fan shafts.

1.3 DEFINITIONS

- A. General: Standard coating terms defined in ASTM D 16 apply to this Section.

1. Flat refers to a lusterless or matte finish with a gloss range below 15 when measured at an 85-degree meter.
 2. Eggshell refers to low-sheen finish with a gloss range between 20 and 35 when measured at a 60-degree meter.
 3. Semi-gloss refers to medium-sheen finish with a gloss range between 30 and 70 when measured at a 60-degree meter.
- B. Full gloss refers to high-sheen finish with a gloss range more than 70 when measured at a 60-degree meter.

1.4 SUBMITTALS

- A. Product Data: For each paint system specified. Include primers.
1. Material List: An inclusive list of required coating materials. Indicate each material and cross-reference specific coating, finish system, and application. Identify each material by manufacturer's catalog number and general classification.
 2. Manufacturer's Information: Manufacturer's technical information, including label analysis and instructions for handling, storing, and applying each coating material.
- B. Samples for Initial Selection: For each type of finish-coat material indicated.
1. For color selection, supply Architect with full color availability color selector for all surfaces to be coated.

1.5 QUALITY ASSURANCE

- A. Applicator Qualifications: A firm for individual experienced in applying paints and coatings similar in material, design, and extent to those indicated for this Project, whose work has resulted in applications with a record of successful in-service performance.
- B. Source Limitations: Obtain primers for each coating system from the same manufacturer as the finish coats.

1.6 DELIVERY, STORAGE, AND HANDLING

- A. Deliver materials to the Project Site in manufacturer's original, unopened packages and containers bearing manufacturer's name and label, and the following information:
1. Product name or title of material.
 2. Product description (generic classification or binder type).
 3. Manufacturer's stock number and date of manufacture.
 4. Contents by volume, for pigment and vehicle constituents.
 5. Thinning instructions.

- 6. Application instructions.
 - 7. Color name and number.
 - 8. VOC content.
- B. Store materials not in use in tightly covered containers in a well-ventilated area at a minimum ambient temperature of 45° deg F (7° deg C). Maintain storage containers in a clean condition, free of foreign materials and residue.
- 1. Protect from freezing. Keep storage area neat and orderly. Remove oily rags and waste daily.

1.7 PROJECT CONDITIONS

- A. Apply waterborne paints only when temperatures of surfaces to be painted and surrounding air are between 50° and 90° (10° and 32° degrees C).
- B. Apply solvent-thinned paints only when temperatures of surfaces to be painted and surrounding air are between 45° and 95° degrees F (7° and 35° degrees C).
- C. Do not apply paint in snow, rain, fog, or mist; or when relative humidity exceeds 85 percent; or at temperatures less than 5° degrees F (3° degrees C) above the dew point; or to damp or wet surfaces.
 - 1. Painting may continue during inclement weather if surfaces and areas to be painted are enclosed and heated within temperature limits specified by manufacturer during application and drying periods.

PART 2 – PRODUCTS

2.1 PAINT MATERIALS, GENERAL

- A. Material Compatibility: Primers and finish-coat materials that are compatible with one another and the substrates indicated under conditions of service and application, as demonstrated by manufacturer based on testing and field experience.
- B. Material Quality: Provide manufacturer's best-quality paint material of the various coating types specified. Paint-material containers not displaying manufacturer's product identification will not be acceptable.
- C. Colors: As noted on the Drawings.

2.2 INTERIOR PRIMERS

- A. Interior Gypsum Board Primer: Factory-formulated latex-based primer for interior application.
 - 1. Benjamin Moore; Moorcraft Super Spec Latex Enamel Undercoater and Primer Sealer No. 253: Applied at a dry film thickness of not less than 1.2 mils (0.030 mm).
 - 2. Coronado; 40-11 Super Kote 5000 Latex Primer-Sealer: Applied at a dry film thickness of not less than 1.2 mils (0.030 mm).

3. ICI Dulux Paints; 1000-1200 Dulux Ultra Basecoat Interior Latex Wall Primer: Applied at a dry film thickness of not less than 1.2 mils (0.031 mm).
 4. ICI Dulux Paints; 1030-1200 Ultra-Hide PVA Interior Primer Sealer General Purpose Wall Primer: Applied at a dry film thickness of not less than 1.9 mils (0.048 mm).
 5. Kelly-Moore; 971 Acry-Prime Interior Latex Primer/Sealer: Applied at a dry film thickness of not less than 1.6 mils (0.041 mm).
 6. M. A. B. Paint; Fresh Kote Vinyl Primer 037-100: Applied at a dry film thickness of not less than 1.5 mils (0.038 mm).
 7. Pittsburgh Paints; 6-2 SpeedHide Interior Quick-Drying Latex Sealer: Applied at a dry film thickness of not less than 1.0 mil (0.025 mm).
 8. Sherwin-Williams; PrepRite 200 Latex Wall Primer B28W200 Series: Applied at a dry film thickness of not less than 1.6 mils (0.041 mm).
- B. Interior Wood Primer for Acrylic-Enamel and Semi-Gloss Alkyd-Enamel Finishes: Factory-formulated alkyd- or acrylic-latex-based interior wood primer.
1. Benjamin Moore; Moorcraft Super Spec Alkyd Enamel Underbody and Primer Sealer No. 245: Applied at a dry film thickness of not less than 1.5 mils (0.038 mm).
 2. Coronado; 78-11 Super Kote 5000 Acrylic Enamel Undercoat: Applied at a dry film thickness of not less than 2.0 mils (0.051 mm).
 3. ICI Dulux Paints; 3210-1200 Ultra-Hide Aquacrylic GRIPPER Stain Killer Primer Sealer: Applied at a dry film thickness of not less than 1.8 mils (0.046 mm).
 4. Kelly-Moore; 975 Acry Plex Interior Latex Enamel Undercoat: Applied at a dry film thickness of not less than 1.6 mils (0.041 mm).
 5. M. A. B. Paint; Rich Lux Latex Undercoat 037-154: Applied at a dry film thickness of not less than 1.5 mils (0.038 mm).
 6. Pittsburgh Paints; 6-855 SpeedHide Latex Enamel Undercoater: Applied at a dry film thickness of not less than 1.0 mil (0.025 mm).
 7. Sherwin-Williams; PrepRite Wall and Wood Primer B49W200 Series: Applied at a dry film thickness of not less than 1.6 mils (0.041 mm).
 8. Sherwin-Williams; PrepRite Classic Interior Primer B28W101 Series: Applied at a dry film thickness of not less than 1.6 mils (0.041 mm).
- C. Interior Ferrous-Metal Primer: Factory-Formulated quick-drying rust-inhibitive alkyd-based metal primer.
1. Benjamin Moore; Moore's IMC Alkyd Metal Primer No. M06: Applied at a dry film thickness of not less than 2.0 mils (0.051 mm).

2. Coronado; 35-147 Rust Scat Alkyd Metal Primer: Applied at a dry film thickness of not less than 2.0 mils (0.051 mm).
 3. ICI Dulux Paints; 4130-6130 Devshield Rust Penetrating Metal Primer: Applied at a dry film thickness of not less than 2.2 mils (0.056 mm).
 4. ICI Dulux Paints; 4160-6130 Devguard Multi-Purpose Tank & Structural Primer: Applied at a dry film thickness of not less than 2.0 mils (0.051 mm).
 5. Kelly-Moore; 1711 Kel-Guard Alkyd White Rust Inhibitive Primer: Applied at a dry film thickness of not less than 2.0 mils (0.051 mm).
 6. M. A. B. Paint; Rust-O-Lastic Anti-Corrosive Primer 073-132: Applied at a dry film thickness of not less than 2.0 mils (0.051 mm).
 7. Pittsburgh Paints; 90-709 Pitt-Tech One Pack Interior/Exterior Primer/Finish DTM Industrial Enamel: Applied at a dry film thickness of not less than 1.5 mils (0.038 mm).
 8. Sherwin-Williams; Kem Kromik Universal Metal Primer B50NZ6/B50WZ1: Applied at a dry film thickness of not less than 3.0 mils (0.076 mm).
- D. Interior Zinc-Coated Metal Primer: Factory-formulated galvanized metal primer.
1. Benjamin Moore; Moore's IMC Acrylic Metal Primer No. M04: Applied at a dry film thickness of not less than 2.0 mils (0.051 mm).
 2. Coronado; 36-11 Rust Scat Acrylic Metal Primer: Applied at a dry film thickness of not less than 2.0 mils (0.051 mm).
 3. ICI Dulux Paints; 4160-6130 Devguard Multi-Purpose Tank and Structural Primer: Applied at a dry film thickness of not less than 2.0 mils (0.051 mm).
 4. Kelly-Moore; 1722 Kel-Guard Acrylic Galvanized Iron Primer: Applied at a dry film thickness of not less than 1.8 mils (0.046 mm).
 5. M. A. B. Paint; Rust-O-Lastic Hydro-Prime II Acrylic (DTM) Maintenance Primer 073-189: Applied at a dry film thickness of not less than 2.0 mils (0.051 mm).
 6. Pittsburgh Paints; 90-709 Pitt-Tech One Pack Interior/Exterior Primer/Finish DTM Industrial Enamel: Applied at a dry film thickness of not less than 3.0 mils (0.076 mm).
 7. Sherwin-Williams; primer not required over this substrate.
 8. Sherwin-Williams; Galvite HS B50WZ30: Applied at a dry film thickness of not less than 3.0 mils (0.076 mm).

PART 3 – EXECUTION

3.1 EXAMINATION

- A. Examine substrates, areas, and conditions, with the Applicator present, for compliance with requirements for paint application. Comply with procedures specified in PDCA P4.

1. Proceed with paint application only after unsatisfactory conditions have been corrected and surfaces receiving paint are thoroughly dry.
 2. Start of painting will be construed as the Applicator's acceptance of surfaces and conditions within a particular area.
- B. Coordination of Work: Review other Sections in which primers are provided to ensure compatibility of the total system for various substrates. On request, furnish information on characteristics of finish materials to ensure use of compatible primers.
1. Notify the Architect about anticipated problems using the materials specified over substrates primed by others.

3.2 PREPARATION

- A. General: Remove hardware and hardware accessories, plates, machined surfaces, lighting fixtures, and similar items already installed that are not to be painted. If removal is impractical or impossible because of the size or weight of the item, provide surface-applied protection before surface preparation and painting.
1. After completing painting operations in each space or area, reinstall items removed using workers skilled in the trades involved.
- B. Cleaning: Before applying paint or other surface treatments, clean the substrates of substances that could impair the bond of the various coatings. Remove oil and grease before cleaning. In areas of renovation, a wash with detergent of all walls, door frames, etc. up 5' from floor is required, with wipe off clean.
1. Schedule cleaning and painting so dust and other contaminants from the cleaning process will not fall on wet, newly painted surfaces.
 2. Foreign matter or dried paint in the paint which appears on newly painted walls will be noted and the wall required to be repainted.
- C. Surface Preparation: Clean and prepare surfaces to be painted according to manufacturer's written instructions for each particular substrate condition and as specified.
1. Provide barrier coats over incompatible primers or remove and reprime.
 2. Cementitious Materials: Prepare concrete, concrete unit masonry, cement plaster, and mineral-fiber-reinforced cement panel surfaces to be painted. Remove efflorescence, chalk, dust, dirt, grease, oils, and release agents. Roughen as required to remove glaze. If hardeners or sealers have been used to improve curing, use mechanical methods of surface preparation.
 - a. Determine alkalinity and moisture content of surfaces by performing appropriate tests. If surfaces are sufficiently alkaline to cause the finish paint to blister and burn, correct this condition before application. Do not paint surfaces if moisture content exceeds that permitted in manufacturer's written instructions.

- D. Wood: Clean surfaces of dirt, oil, and other foreign substances with scrapers, mineral spirits, and sandpaper, as required. Sand surfaces exposed to view smooth and dust off.
 - 1. Scrape and clean small, dry, seasoned knots, and apply a thin coat of white shellac or other recommended knot sealer before applying primer. After priming, fill holes and imperfections in finish surfaces with putty or plastic wood filler. Sand smooth when dried.
 - 2. Prime, stain, or seal wood to be painted immediately on delivery. Prime edges, ends, faces, undersides, and back sides of wood, including cabinets, counters, cases, and paneling. If transparent finish is required, backprime with spar varnish.
 - 3. Backprime paneling on interior partitions where masonry, plaster, or other wet wall construction occurs on back side.
 - 4. Seal tops, bottoms, and cutouts of unprimed wood doors with a heavy coat of varnish or sealer immediately on delivery.
- E. Ferrous Metals: Clean ungalvanized ferrous-metal surfaces that have not been shop coated; remove oil, grease, dirt, loose mill scale, and other foreign substances. Use solvent or mechanical cleaning methods that comply with the Steel Structures Painting Council's (SSPC) recommendations.
 - 1. Treat bare and sandblasted or pickled clean metal with a metal treatment wash coat before priming.
 - 2. Touch up bare areas and shop-applied prime coats that have been damaged. Wire-brush, clean with solvents recommended by paint manufacturer, and touch up with the same primer as the shop coat.
- F. Galvanized Surfaces: Clean galvanized surfaces with non-petroleum-based solvents so surface is free of oil and surface contaminants. Remove pre-treatment from galvanized sheet metal fabricated coil stock by mechanical methods.
 - 1. Maintain containers used in mixing and applying paint in a clean condition, free of foreign materials and residue.
 - 2. Stir material before application to produce a mixture of uniform density. Stir as required during application. Do not stir surface film into material. If necessary, remove surface film and strain material before using.
 - 3.

3.3 APPLICATION

- A. General: Apply paint according to manufacturer's written instructions. Use applicators and techniques best suited for substrate and type of material being applied.
 - 1. Paint colors, surface treatments, and finishes are indicated in the schedules.

2. Do not paint over dirt, rust, scale, grease, moisture, scuffed surfaces, or conditions detrimental to formation of a durable paint film. Provide finish coats that are compatible with primers used.
 3. The term "exposed surfaces" includes areas visible when permanent or built-in fixtures, convector covers, covers for finned-tube radiation, grilles, and similar components are in place. Extend coatings in these areas, as required, to maintain the system integrity and provide desired protection.
 4. Paint surfaces behind movable equipment and furniture the same as similar exposed surfaces. Before the final installation of equipment, paint surfaces behind permanently fixed equipment or furniture with prime coat only.
 5. Paint interior surfaces of ducts with a flat, non-specular black paint where visible through registers or grilles.
 6. Paint back sides of access panels and removable or hinged covers to match exposed surfaces.
 7. Finish exterior doors on tops, bottoms, and side edges the same as exterior faces.
 8. Finish interior of wall and base cabinets and similar field-finished casework to match exterior.
 9. Sand lightly between each succeeding enamel or varnish coat.
- B. Scheduling Painting: Apply first coat to surfaces that have been cleaned, pretreated, or otherwise prepared for painting as soon as practicable after preparation and before subsequent surface deterioration.
1. The number of coats and the film thickness required are the same regardless of application method. Do not apply succeeding coats until the previous coat has cured as recommended by the manufacturer. If sanding is required to produce a smooth, even surface according to manufacturer's written instructions, sand between applications.
 2. Omit primer on metal surfaces that have been shop primed and touchup painted.
 3. If undercoats, stains, or other conditions show through final coat of paint, apply additional coats until paint film is of uniform finish, color, and appearance. Give special attention to ensure edges, corners, crevices, welds, and exposed fasteners receive a dry film thickness equivalent to that of flat surfaces.
 4. Allow sufficient time between successive coats to permit proper drying. Do not recoat surfaces until paint has dried to where it feels firm, does not deform or feel sticky under moderate thumb pressure, and where application of another coat of paint does not cause the undercoat to lift or lose adhesion.
- C. Application Procedures: Apply paints and coatings by brush, roller, spray, or other applicators according to manufacturer's written instructions.

1. Brushes: Use brushes best suited for the type of material applied. Use brush of appropriate size for the surface or item being painted.
 2. Rollers: Use rollers of carpet, velvet back, or high-pile sheep's wool as recommended by the manufacturer for the material and texture required.
 3. Spray Equipment: Use airless spray equipment with orifice size as recommended by the manufacturer for the material and texture required.
- D. Minimum Coating Thickness: Apply paint materials no thinner than manufacturers recommended spreading rate to achieve dry film thickness indicated. Provide the total dry film thickness of the entire system as recommended by the manufacturer.
- E. Mechanical and Electrical Work: Painting of mechanical and electrical work is limited to items exposed in equipment rooms and in occupied spaces.
- F. Mechanical items that are exposed to public view to be painted include, but are not limited to, the following:
1. Uninsulated metal piping.
 2. Uninsulated plastic piping.
 3. Pipe hangers and supports.
 4. Tanks that do not have factory-applied final finishes.
 5. Visible portions of internal surfaces of metal ducts, without liner, behind air inlets and outlets.
 6. Duct, equipment, and pipe insulation having "all-service jacket" or other paintable jacket material.
 7. Mechanical equipment that is indicated to have a factory-primed finish for field painting.
- G. Electrical items that are exposed to public view to be painted include, but are not limited to, the following:
1. Switchgear.
 2. Panelboards.
 3. Electrical equipment that is indicated to have a factory-primed finish or field painting.
- H. Prime Coats: Before applying finish coats, apply a prime coat, as recommended by the manufacturer, to material that is required to be painted or finished and that has not been prime coated by others. Recoat primed and sealed surfaces where evidence of suction spots or unsealed areas in first coat appears, to ensure a finish coat with no burn through or other defects due to insufficient sealing.
- I. Pigmented (Opaque) Finishes: Completely cover surfaces as necessary to provide a smooth, opaque surface of uniform finish, color, appearance, and coverage. Cloudiness, spotting,

holidays, laps, brush marks, runs, sags, ropiness, or other surface imperfections will not be acceptable.

- J. Completed Work: Match approved samples for color, texture, and coverage. Remove, refinish, or repaint work not complying with requirements.

PART 4 - FIELD QUALITY CONTROL

4.1 CLEANING

- A. Cleanup: At the end of each workday, remove empty cans, rags, rubbish, and other discarded paint materials from the site.
 - 1. After completing painting, clean glass and paint-spattered surfaces. Remove spattered paint by washing and scraping without scratching or damaging adjacent finished surfaces.

4.2 PROTECTION

- A. Protect work of other trades, whether being painted or not, against damage by painting. Correct damage by cleaning, repairing or replacing, and repainting, as approved by Architect.
- B. Provide "Wet Paint" signs to protect newly painted finishes. After completing painting operations, remove temporary protective wrappings provided by others to protect their work.
 - 1. After work of other trades is complete, touch up and restore damaged or defaced painted surfaces. Comply with procedures specified in PDCA P1.

4.3 INTERIOR PAINT SCHEDULE

- A. Gypsum Board: Provide the following finish systems over interior gypsum board surfaces:
 - 1. Two (2) finish coats over a primer.
- B. Wood and Hardboard: Provide the following paint finish systems over new interior wood surfaces:
 - 1. Two (2) finish coats over a primer.
- C. Ferrous Metal: Provide the following finish systems over ferrous metal:
 - a. Two (2) finish coats over primer.
- D. Zinc-Coated Metal: Provide the following finish system over interior zinc-coated metal surfaces:
 - 1. Semi-Gloss Acrylic-Enamel Finish: Two (2) finish coats over a primer.
 - a. Primer: Interior zinc-coated metal primer.
 - b. Finish Coats: Interior semi-gloss acrylic enamel.

END OF SECTION

SECTION 09 9123 - INTERIOR PAINTING

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Surface preparation.
- B. Scope: Finish interior surfaces exposed to view, unless fully factory-finished and unless otherwise indicated.
- C. Do Not Paint or Finish the Following Items:
 - 1. Items factory-finished unless otherwise indicated; materials and products having factory-applied primers are not considered factory finished.
 - 2. Items indicated to receive other finishes.
 - 3. Items indicated to remain unfinished.
 - 4. Floors, unless specifically indicated.
 - 5. Glass.
 - 6. Concealed pipes, ducts, and conduits.

1.2 RELATED REQUIREMENTS

1.3 REFERENCE STANDARDS

- A. MPI (APSM) - Master Painters Institute Architectural Painting Specification Manual Current Edition.
- B. SSPC-SP 1 - Solvent Cleaning 2015, with Editorial Revision (2016).
- C. SSPC-SP 6 - Commercial Blast Cleaning 2007.

1.4 SUBMITTALS

- A. See Section 01 3000 - Administrative Requirements, for submittal procedures.
- B. Product Data: Provide complete list of products to be used, with the following information for each:
 - 1. Manufacturer's name, product name and/or catalog number, and general product category (e.g. "alkyd enamel").
 - 2. Cross-reference to specified paint system(s) product is to be used in; include description of each system.
 - 3. Manufacturer's installation instructions.

1.5 DELIVERY, STORAGE, AND HANDLING

- A. Deliver products to site in sealed and labeled containers; inspect to verify acceptability.
- B. Container Label: Include manufacturer's name, type of paint, brand name, lot number, brand code, coverage, surface preparation, drying time, cleanup requirements, color designation, and instructions for mixing and reducing.
- C. Paint Materials: Store at minimum ambient temperature of 45 degrees F and a maximum of 90 degrees F, in ventilated area, and as required by manufacturer's instructions.

1.6 FIELD CONDITIONS

- A. Do not apply materials when surface and ambient temperatures are outside the temperature ranges required by the paint product manufacturer.
- B. Follow manufacturer's recommended procedures for producing best results, including testing of substrates, moisture in substrates, and humidity and temperature limitations.
- C. Provide lighting level of 80 ft candles measured mid-height at substrate surface.

PART 2 PRODUCTS

2.1 MANUFACTURERS

- A. Paints:

2.2 PAINTS AND FINISHES - GENERAL

- A. Paints and Finishes: Ready mixed, unless intended to be a field-catalyzed paint.
 - 1. Valspar Corporation: www.valsparpaint.com/#sle.
 - 2. Provide paints and finishes of a soft paste consistency, capable of being readily and uniformly dispersed to a homogeneous coating, with good flow and brushing properties, and capable of drying or curing free of streaks or sags.
- B. Colors: To be selected from manufacturer's full range of available colors.
 - 1. Selection to be made by Architect/Engineer after award of contract.

2.3 PAINT SYSTEMS - INTERIOR

- A. Paint I-OP - Interior Surfaces to be Painted, Unless Otherwise Indicated: Including gypsum board, concrete masonry units, and shop primed steel.
 - 1. Two top coats and one coat primer.
 - 2. Top Coat(s): High Performance Architectural Interior Latex; MPI #138, 139, 140, or 141.
 - 3. Top Coat(s): Institutional Low Odor/VOC Interior Latex; MPI #143, 144, 145, 146, 147, or 148.
 - 4. Top Coat(s): Interior Latex; MPI #43, 44, 52, 53, 54, or 114.

5. Top Coat Sheen:
 - a. Flat: MPI gloss level 1; use this sheen for ceilings and other overhead surfaces.
 - b. Eggshell: MPI gloss level 3; use this sheen at all locations.
 - c. Satin: MPI gloss level 4; use this sheen for items subject to frequent touching by occupants, including door frames and railings.
- B. Paint I-OP-MD-WC - Medium Duty Vertical and Overhead: Including gypsum board, concrete masonry units, uncoated steel, and shop primed steel.
 1. Two top coats and one coat primer.
 2. Top Coat(s): High Performance Architectural Interior Latex; MPI #138, 139, 140, or 141.

2.4 PRIMERS

- A. Primers: Provide the following unless other primer is required or recommended by manufacturer of top coats.
 1. Alkali Resistant Water Based Primer; MPI #3.
 2. Interior/Exterior Latex Block Filler; MPI #4.

2.5 ACCESSORY MATERIALS

- A. Accessory Materials: Provide primers, sealers, cleaning agents, cleaning cloths, sanding materials, and clean-up materials as required for final completion of painted surfaces.
- B. Patching Material: Latex filler.
- C. Fastener Head Cover Material: Latex filler.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Verify that surfaces are ready to receive work as instructed by the product manufacturer.
- B. Test shop-applied primer for compatibility with subsequent cover materials.

3.2 PREPARATION

- A. Clean surfaces thoroughly and correct defects prior to application.
- B. Prepare surfaces using the methods recommended by the manufacturer for achieving the best result for the substrate under the project conditions.
- C. Remove or mask surface appurtenances, including electrical plates, hardware, light fixture trim, escutcheons, and fittings, prior to preparing surfaces or finishing.
- D. Seal surfaces that might cause bleed through or staining of topcoat.

- E. Concrete:
- F. Masonry:
- G. Gypsum Board: Fill minor defects with filler compound. Spot prime defects after repair.
- H. Plaster: Fill hairline cracks, small holes, and imperfections with latex patching plaster. Make smooth and flush with adjacent surfaces. Wash and neutralize high alkali surfaces.
- I. Ferrous Metal:
 - 1. Solvent clean according to SSPC-SP 1.
 - 2. Shop-Primed Surfaces: Sand and scrape to remove loose primer and rust. Feather edges to make touch-up patches inconspicuous. Clean surfaces with solvent. Prime bare steel surfaces. Re-prime entire shop-primed item.
 - 3. Remove rust, loose mill scale, and other foreign substances using methods recommended in writing by paint manufacturer and blast cleaning according to SSPC-SP 6 "Commercial Blast Cleaning". Protect from corrosion until coated.

3.3 APPLICATION

- A. Apply products in accordance with manufacturer's written instructions and recommendations in "MPI Architectural Painting Specification Manual".
- B. Do not apply finishes to surfaces that are not dry. Allow applied coats to dry before next coat is applied.
- C. Apply each coat to uniform appearance in thicknesses specified by manufacturer.
- D. Vacuum clean surfaces of loose particles. Use tack cloth to remove dust and particles just prior to applying next coat.
- E. Reinstall electrical cover plates, hardware, light fixture trim, escutcheons, and fittings removed prior to finishing.

3.4 FIELD QUALITY CONTROL

- A. See Section 01 4000 - Quality Requirements, for general requirements for field inspection.

3.5 CLEANING

- A. Collect waste material that could constitute a fire hazard, place in closed metal containers, and remove daily from site.

3.6 PROTECTION

- A. Protect finishes until completion of project.
- B. Touch-up damaged finishes after Substantial Completion.

END OF SECTION

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SECTION 10 1400 - SIGNAGE

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Room and door signs.

1.2 REFERENCE STANDARDS

- A. 36 CFR 1191 - Americans with Disabilities Act (ADA) Accessibility Guidelines for Buildings and Facilities; Architectural Barriers Act (ABA) Accessibility Guidelines current edition.
- B. ADA Standards - 2010 ADA Standards for Accessible Design 2010.
- C. ICC A117.1 - Accessible and Usable Buildings and Facilities 2017.

1.3 SUBMITTALS

- A. See Section 01 3000 - Administrative Requirements, for submittal procedures.
- B. Product Data: Manufacturer's printed product literature for each type of sign, indicating sign styles, font, foreground and background colors, locations, overall dimensions of each sign.
- C. Signage Schedule: Provide information sufficient to completely define each sign for fabrication, including room number, room name, other text to be applied, sign and letter sizes, fonts, and colors.
 - 1. When room numbers to appear on signs differ from those on drawings, include the drawing room number on schedule.
 - 2. When content of signs is indicated to be determined later, request such information from Owner through Architect/Engineer at least 2 months prior to start of fabrication; upon request, submit preliminary schedule.
 - 3. Submit for approval by Owner through Architect/Engineer prior to fabrication.

PART 2 PRODUCTS

2.1 SIGNAGE APPLICATIONS

- A. Accessibility Compliance: Signs are required to comply with ADA Standards and ICC A117.1, unless otherwise indicated; in the event of conflicting requirements, comply with the most comprehensive and specific requirements.
- B. Room and Door Signs: Provide a sign for every doorway, whether it has a door or not, not including corridors, lobbies, and similar open areas.
 - 1. Sign Type: Flat signs with engraved panel media as specified.
 - 2. Provide "tactile" signage, with letters raised minimum 1/32 inch and Grade II braille.
 - 3. Character Height: 1 inch.

4. Sign Height: 2 inches, unless otherwise indicated.
5. Service Rooms: Identify with Owner.
6. Rest Rooms: Identify with pictograms, the names "MEN" and "WOMEN", and braille.

2.2 SIGN TYPES

- A. Flat Signs: Signage media without frame.
 1. Edges: Square.
 2. Corners: Square.
 3. Wall Mounting of One-Sided Signs: Concealed screws.
- B. Color and Font: Unless otherwise indicated:
 1. Character Font: Helvetica, Arial, or other sans serif font.
 2. Character Case: Upper case only.
 3. Background Color: TBD.
 4. Character Color: Contrasting color: TBD

2.3 TACTILE SIGNAGE MEDIA

- A. Engraved Panels: Laminated colored plastic; engraved through face to expose core as background color:
 1. Total Thickness: 1/16 inch.

2.4 ACCESSORIES

- A. Concealed Screws: Stainless steel, galvanized steel, chrome plated, or other non-corroding metal.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Verify that substrate surfaces are ready to receive work.

3.2 INSTALLATION

- A. Install in accordance with manufacturer's instructions.
- B. Install neatly, with horizontal edges level.
- C. Locate signs and mount at heights indicated on drawings and in accordance with ADA Standards and ICC A117.1.

D. Protect from damage until Substantial Completion; repair or replace damaged items.

END OF SECTION

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SECTION 10 2113.17 - PHENOLIC TOILET COMPARTMENTS

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Phenolic toilet compartments.

1.2 REFERENCE STANDARDS

- A. ASTM A666 - Standard Specification for Annealed or Cold-Worked Austenitic Stainless Steel Sheet, Strip, Plate, and Flat Bar 2023.

1.3 ADMINISTRATIVE REQUIREMENTS

- A. Coordination: Coordinate the work with placement of support framing and anchors in walls and ceilings.

1.4 SUBMITTALS

- A. See Section 01 3000 - Administrative Requirements, for submittal procedures.
- B. Product Data: Provide data on panel construction, hardware, and accessories.
- C. Shop Drawings: Indicate partition plan, elevation views, dimensions, details of wall supports, door swings.
- D. Samples: Submit two samples of partition panels, in size illustrating panel finish, color, and sheen.

PART 2 PRODUCTS

2.1 PHENOLIC TOILET COMPARTMENTS

- A. Toilet Compartments: Factory fabricated doors, pilasters, and divider panels made of solid phenolic core panels with integral melamine finish, floor-mounted unbraced.
 - 1. Color: TBD.
- B. Doors:
 - 1. Thickness: 3/4 inch.
 - 2. Width: 24 inch.
 - 3. Width for Handicapped Use: 36 inch, out-swinging.
 - 4. Height: 58 inch.
- C. Panels:
 - 1. Thickness: 1/2 inch.

2. Height: 58 inch.
 3. Depth: As indicated on drawings.
- D. Pilasters:
1. Thickness: 3/4 inch.
 2. Width: As required to fit space; minimum 3 inch.

2.2 ACCESSORIES

- A. Pilaster Shoes: Formed ASTM A666 Type 304 stainless steel with No. 4 finish, 3 inch high, concealing floor fastenings.
1. Provide adjustment for floor variations with screw jack through steel saddles integral with pilaster.
- B. Head Rails: Hollow anodized aluminum, 1 inch by 1-1/2 inch size, with anti-grip profile and cast socket wall brackets.
- C. Wall and Pilaster Brackets: Polished stainless steel; manufacturer's standard type for conditions indicated on drawings.
- D. Attachments, Screws, and Bolts: Stainless steel , tamper proof type.
1. For attaching panels and pilasters to brackets: Through-bolts and nuts ; tamper proof.
- E. Hardware: Polished stainless steel:
1. Pivot hinges, gravity type, adjustable for door close positioning; two per door.
 2. Door Latch: Slide type with exterior emergency access feature.
 3. Door strike and keeper with rubber bumper; mounted on pilaster in alignment with door latch.
 4. Coat hook with rubber bumper; one per compartment, mounted on door.
 5. Provide door pull for outswinging doors.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Verify that field measurements are as indicated.
- B. Verify correct spacing of and between plumbing fixtures.

3.2 INSTALLATION

- A. Install partitions secure, rigid, plumb, and level in accordance with manufacturer's instructions.

- B. Maintain 3/8 inch to 1/2 inch space between wall and panels and between wall and end pilasters.
- C. Attach panel brackets securely to walls using anchor devices.
- D. Attach panels and pilasters to brackets. Locate head rail joints at pilaster center lines.
- E. Field touch-up of scratches or damaged finish will not be permitted. Replace damaged or scratched materials with new materials.

3.3 TOLERANCES

- A. Maximum Variation From True Position: 1/4 inch.
- B. Maximum Variation From Plumb: 1/8 inch.

3.4 ADJUSTING

- A. Adjust and align hardware to uniform clearance at vertical edge of doors, not exceeding 3/16 inch.
- B. Adjust hinges to position doors in partial opening position when unlatched. Return out-swinging doors to closed position.
- C. Adjust adjacent components for consistency of line or plane.

END OF SECTION

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SECTION 10 2800 - TOILET, BATH, AND LAUNDRY ACCESSORIES

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Commercial toilet accessories.
- B. Diaper changing stations.

1.2 REFERENCE STANDARDS

- A. ADA Standards - 2010 ADA Standards for Accessible Design 2010.
- B. ASTM A269/A269M - Standard Specification for Seamless and Welded Austenitic Stainless Steel Tubing for General Service 2022.
- C. ASTM A666 - Standard Specification for Annealed or Cold-Worked Austenitic Stainless Steel Sheet, Strip, Plate, and Flat Bar 2023.
- D. ASTM F2285 - Standard Consumer Safety Performance Specification for Diaper Changing Tables for Commercial Use 2022.

1.3 SUBMITTALS

- A. See Section 01 3000 - Administrative Requirements, for submittal procedures.
- B. Product Data: Submit data on accessories describing size, finish, details of function, and attachment methods.

PART 2 PRODUCTS

2.1 MANUFACTURERS

- A. Commercial Toilet, Shower, and Bath Accessories:
 - 1. AJW Architectural Products: www.ajw.com/#sle.
 - 2. American Specialties, Inc: www.americanspecialties.com/#sle.
 - 3. Bradley Corporation: www.bradleycorp.com/#sle.
 - 4. Substitutions: Section 01 6000 - Product Requirements.
- B. Diaper Changing Stations:
 - 1. American Specialties, Inc: www.americanspecialties.com/#sle.
 - 2. Bradley Corporation: www.bradleycorp.com/#sle.
 - 3. Diaper Deck & Company: www.diaperdeck.com/#sle.
 - 4. Koala Kare Products: www.koalabear.com/#sle.

2.2 MATERIALS

- A. Accessories - General: Shop assembled, free of dents and scratches and packaged complete with anchors and fittings, steel anchor plates, adapters, and anchor components for installation.
- B. Stainless Steel Sheet: ASTM A666, Type 304.
- C. Stainless Steel Tubing: ASTM A269/A269M, Grade TP304 or TP316.

2.3 FINISHES

- A. Stainless Steel: Satin finish, unless otherwise noted.

2.4 COMMERCIAL TOILET ACCESSORIES

- A. Grab Bars: Stainless steel, peened surface.
 - 1. Heavy Duty Grab Bars: Floor supports are acceptable if necessary to achieve load rating.
 - a. Push/Pull Point Load: Minimum 1000 pound-force, minimum.
 - b. Dimensions: 1-1/2 inch outside diameter, minimum 0.125 inch wall thickness, exposed flange mounting, 1-1/2 inch clearance between wall and inside of grab bar.
 - c. Length and Configuration: As indicated on drawings.

2.5 DIAPER CHANGING STATIONS

- A. Diaper Changing Station: Wall-mounted folding diaper changing station for use in commercial toilet facilities, meeting or exceeding ASTM F2285.
 - 1. Material: Polyethylene.
 - 2. Mounting: Surface.
 - 3. Color: As selected.
 - 4. Minimum Rated Load: 250 pounds.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Verify existing conditions before starting work.
- B. Verify exact location of accessories for installation.

3.2 PREPARATION

- A. Deliver inserts and rough-in frames to site for timely installation.
- B. Provide templates and rough-in measurements as required.

3.3 INSTALLATION

- A. Install accessories in accordance with manufacturers' instructions in locations indicated on drawings.
- B. Install plumb and level, securely and rigidly anchored to substrate.
- C. Mounting Heights: As required by accessibility regulations, unless otherwise indicated.
 - 1. Grab Bars: As indicated on drawings.

END OF SECTION

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SECTION 31 1000 - SITE CLEARING

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Clearing and protection of vegetation.
- B. Removal of debris.

1.2 RELATED REQUIREMENTS

- A. Section 01 1000 - Summary: Sequencing and staging requirements.
- B. Section 01 5000 - Temporary Facilities and Controls: Site fences, security, protective barriers, and waste removal.
- C. Section 01 7000 - Execution and Closeout Requirements: Project conditions; protection of bench marks, survey control points, and existing construction to remain; reinstallation of removed products.
- D. Section 31 2200 - Grading: Topsoil removal.
- E. Section 31 2323 - Fill: Fill material for filling holes, pits, and excavations generated as a result of removal operations.

1.3 QUALITY ASSURANCE

- A. Conform to applicable code for environmental requirements, disposal of debris, burning debris on site, and use of herbicides.

PART 2 PRODUCTS

2.1 MATERIALS

- A. Fill Material: As specified in Section 31 2200 - Grading.

PART 3 EXECUTION

3.1 PREPARATION

- A. Call Local Utility Line Information service at number shown on Drawings not less than three working days before performing Work.
 - 1. Request underground utilities to be located and marked within and surrounding construction areas.

3.2 SITE CLEARING

- A. Comply with other requirements specified in Section 01 7000.
- B. Minimize production of dust due to clearing operations; do not use water if that will result in ice, flooding, sedimentation of public waterways or storm sewers, or other pollution.

3.3 EXISTING UTILITIES AND BUILT ELEMENTS

- A. Coordinate Work with utility companies; notify before starting Work and comply with their requirements; obtain required permits.
- B. Protect existing utilities to remain from damage.
- C. Do not disrupt public utilities without permit from authority having jurisdiction.
- D. Protect improvements on adjoining properties as well as those on the Owner's property.
- E. Restore any improvements damaged by this Work to their original condition, as acceptable to the Owner, other parties, or authorities having jurisdiction.

3.4 VEGETATION

- A. Scope: Remove trees, shrubs, brush, and stumps within rights-of-way or easements or within limits of disturbance as indicated on the Drawings.
- B. Do not begin clearing until vegetation to be relocated has been removed.
- C. Do not remove or damage vegetation beyond the limits of disturbance indicated on the Drawings.
 - 1. Trees and shrubs that are to remain within limits of disturbance will be indicated on Drawings or conspicuously marked on site.
 - 2. Unless otherwise noted, trees within the limits of disturbance shall become the property of the Contractor and shall be removed from the site.
- D. In areas where vegetation must be removed but no construction will occur other than pervious paving, remove vegetation with minimum disturbance of the subsoil.
- E. Vegetation Removed: Do not burn, bury, landfill, or leave on site, except as indicated.
 - 1. Chip, grind, crush, or shred vegetation for mulching, composting, or other purposes; preference should be given to on-site uses.
 - 2. Trees: Sell if marketable; if not, treat as specified for other vegetation removed; remove stumps and roots to depth of 18 inches.
 - 3. Existing Stumps: Treat as specified for other vegetation removed; remove stumps and roots to depth of 18 inches.
 - 4. Sod: Re-use on site if possible; otherwise sell if marketable, and if not, treat as specified for other vegetation removed.
 - 5. Fill holes left by removal of stumps and roots, using suitable fill material, with top surface neat in appearance and smooth enough not to constitute a hazard to pedestrians.
- F. Remove above-grade improvements such as posts, poles, fences, and other Work as specifically indicated or necessary to permit new construction.

- G. Masonry or other construction material that will result in dust shall be wet down during demolition and removal.
- H. Remove promptly all salvage that become property of the Contractor and is not to be reused in construction. Sale of material on the site is prohibited.
- I. Dead Wood: Remove all dead trees (standing or down), limbs, and dry brush on entire site; treat as specified for vegetation removed.
- J. Restoration: If vegetation outside removal limits or within specified protective fences is damaged or destroyed due to subsequent construction operations, replace at no cost to Owner.

3.5 DEBRIS

- A. Continuously clean-up and remove waste materials from site. Do not allow materials to accumulate on site.
- B. Remove debris, rock, extracted plant life, junk, and trash from site.
- C. Remove paving, curbs, and slabs.
- D. Where indicated on Drawings, partially remove paving, curbs, and slabs. Neatly saw cut edges at right angle to surface.
- E. Remove abandoned utilities. Indicated removal termination point for underground utilities on Record Documents.
- F. Do not burn or bury materials on site unless authorized in writing by authority having jurisdiction.
- G. Leave site in clean condition, ready for subsequent work.
- H. Clean up spillage and wind-blown debris from public and private lands.

END OF SECTION

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SECTION 31 2200 - GRADING

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Removal and storage of topsoil.
- B. Rough grading the site for site structures.
- C. Topsoil and finish grading for planting.

1.2 RELATED REQUIREMENTS

- A. Section 31 1000 - Site Clearing.
- B. Section 31 2316 - Excavation.
- C. Section 31 2316.13 - Trenching: Trenching and backfilling for utilities.
- D. Section 31 2323 - Fill: Filling and compaction.
- E. Section 32 9219 - Seeding: Finish ground cover.

PART 2 PRODUCTS

2.1 MATERIALS

- A. Topsoil: See Section 31 2323.
- B. Other Fill Materials: See Section 31 2323.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Verify that survey bench mark and intended elevations for the Work are as indicated.

3.2 PREPARATION

- A. Identify required lines, levels, contours, and datum.
- B. Stake and flag locations of known utilities.
- C. Locate, identify, and protect from damage above- and below-grade utilities to remain.
- D. Notify utility company to remove and relocate utilities.
- E. Protect site features to remain, including but not limited to bench marks, survey control points, existing structures, fences, sidewalks, paving, and curbs, from damage by grading equipment and vehicular traffic.
- F. Protect trees to remain by providing substantial fencing around entire tree at the outer tips of its branches; no grading is to be performed inside this line.

- G. Protect plants, lawns, rock outcroppings, and other features to remain as a portion of final landscaping.

3.3 ROUGH GRADING

- A. Remove topsoil from areas to be further excavated, re-landscaped, or re-graded, without mixing with foreign materials.
- B. Do not remove topsoil when wet.
- C. Remove subsoil from areas to be further excavated, re-landscaped, or re-graded.
- D. Do not remove wet subsoil, unless it is subsequently processed to obtain optimum moisture content.
- E. When excavating through roots, perform work by hand and cut roots with sharp axe.
- F. See Section 31 2323 for filling procedures.
- G. Benching Slopes: Horizontally bench existing slopes greater than 3:1 to key fill material to slope for firm bearing.
- H. Stability: Replace damaged or displaced subsoil to same requirements as for specified fill.

3.4 SOIL REMOVAL AND STOCKPILING

- A. Stockpile topsoil to be re-used on site; remove remainder from site.
- B. Stockpile subsoil to be re-used on site; remove remainder from site.
- C. Stockpiles: Use areas designated on site; pile depth not to exceed 8 feet; protect from erosion.

3.5 FINISH GRADING

- A. Before Finish Grading:
 - 1. Verify building and trench backfilling have been inspected.
 - 2. Verify subgrade has been contoured and compacted.
- B. Remove debris, roots, branches, stones, in excess of 1 inch in size. Remove soil contaminated with petroleum products.
- C. Where topsoil is to be placed, scarify surface to depth of 6 inches.
- D. In areas where vehicles or equipment have compacted soil, scarify surface to depth of 6 inches.
- E. Place topsoil in areas where seeding, sodding, and planting are required.
- F. Place topsoil to the following compacted thicknesses:
 - 1. Areas to be Seeded with Grass: 6 inches.

- G. Place topsoil during dry weather.
- H. Remove roots, weeds, rocks, and foreign material while spreading.
- I. Near plants, buildings, and pavement, spread topsoil manually to prevent damage.
- J. Fine grade topsoil to eliminate uneven areas and low spots. Maintain profiles and contour of subgrade.
- K. Lightly compact placed topsoil.

3.6 TOLERANCES

- A. Top Surface of Subgrade: Plus or minus 0.10 foot (1-3/16 inches) from required elevation.
- B. Top Surface of Finish Grade: Plus or minus 0.04 foot (1/2 inch).

3.7 REPAIR AND RESTORATION

- A. Existing Facilities, Utilities, and Site Features to Remain: If damaged due to this work, repair or replace to original condition.
- B. Trees to Remain: If damaged due to this work, trim broken branches and repair bark wounds; if root damage has occurred, obtain instructions from Architect/Engineer as to remedy.
- C. Other Existing Vegetation to Remain: If damaged due to this work, replace with vegetation of equivalent species and size.

3.8 FIELD QUALITY CONTROL

- A. See Section 31 2323 for compaction density testing.

3.9 CLEANING

- A. Remove unused stockpiled topsoil and subsoil. Grade stockpile area to prevent standing water.
- B. Leave site clean and raked, ready to receive landscaping.

END OF SECTION

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SECTION 31 2316 - EXCAVATION

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Excavating for building volume below grade, footings, pile caps, slabs-on-grade, paving, site structures, utilities within the building, utilities, and site development.

1.2 RELATED REQUIREMENTS

- A. Section 01 7000 - Execution and Closeout Requirements: General requirements for dewatering of excavations and water control.
- B. Section 31 1000 - Site Clearing.
- C. Section 31 2200 - Grading
- D. Section 31 2316.13 - Trenching: Excavating for utility trenches outside the building to utility main connections.
- E. Section 31 2323 - Fill: Fill materials, filling, and compacting.

1.3 SUBMITTALS

- A. See Section 01 3000 - Administrative Requirements, for submittal procedures.
- B. Excavation Protection Plan: Describe sheeting, shoring, and bracing materials and installation required to protect excavations and adjacent structures and property; include structural calculations to support plan.
- C. Dewatering Plan: Describe dewatering methods to be used to keep excavations dry, if required.

1.4 QUALIFICATIONS

- A. Prepare excavation protection plan under direct supervision of Professional Engineer experienced in design of this Work and licensed in State of Virginia.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION

3.1 EXAMINATION

- A. Verify that survey bench mark and intended elevations for the work are as indicated.

3.2 PREPARATION

- A. Call Local Utility Line Information service at number shown on Drawings not less than three working days before performing Work.

1. Request underground utilities to be located and marked within and surrounding construction areas.
- B. Identify required lines, levels, contours, and datum locations.
- C. See Section 31 2200 for additional requirements.
- D. Locate, identify, and protect utilities that remain from damage.
- E. Notify utility company to remove and relocate utilities.
- F. Protect bench marks, survey control points, existing structures, fences, sidewalks, paving, curbs, and lawns from excavating equipment and vehicular traffic.
- G. Protect plants, lawns, rock outcroppings, and other features to remain.

3.3 EXCAVATING

- A. All excavation shall be unclassified regardless of material encountered.
- B. Underpin adjacent structures that could be damaged by excavating work.
- C. Excavate to accommodate building foundations, slabs-on-grade, paving, site structures, and construction operations.
- D. Notify Architect/Engineer of unexpected subsurface conditions and discontinue affected Work in area until notified to resume work.
- E. Preparation for Piling Work: Excavate to working elevations. Coordinate special requirements for piling.
- F. Slope banks of excavations deeper than 4 feet to angle of repose or less until shored.
- G. Do not interfere with 45 degree bearing splay of foundations.
- H. Cut utility trenches wide enough to allow inspection of installed utilities.
- I. Hand trim excavations. Remove loose matter.
- J. Correct areas that are over-excavated and load-bearing surfaces that are disturbed; see Section 31 2323.
- K. Grade top perimeter of excavation to prevent surface water from draining into excavation.
- L. Remove excavated material that is unsuitable for re-use from site.
- M. Stockpile excavated material to be re-used in area designated on site in accordance with Section 31 2200.
- N. Remove excess excavated material from site.
- O. Repair or replace items indicated to remain that are damaged by excavation.

- P. Excavate subsoil from areas to be further excavated, re-landscaped, or regraded.
- Q. Do not excavate wet subsoil or excavate and process wet material to obtain optimum moisture content.
- R. Benching Slopes: Horizontally bench existing slopes greater than 3:1 to key placed fill material into slope to provide firm bearing.
- S. Stability: Replace damaged or displaced subsoil as specified for fill.
- T. Where unauthorized excavations have been carried below or beyond points required, restore these areas to the elevations and dimensions shown on the Drawings with material approved by Engineer and compact as specified. This Work shall be performed at no additional cost to the Owner.
- U. Excavate unsatisfactory soil materials encountered that extend below required elevations to the additional depth as directed by Engineer.
 - 1. Where removal of unsatisfactory material is due to fault or negligence of the Contractor, by inadequate shoring or bracing, dewatering, material storage or other failure to meet specified requirements, Work shall be performed at no additional cost to the Owner.
- V. Areas that receive seeding shall be graded below finished grades shown, leaving space for topsoiling.
- W. Stockpile excavated soil material satisfactory for backfill or fill until required. Place, grade, and shape stockpiles for proper drainage.
- X. Cut slopes shall be shaped and cleaned of loose rock as the work progresses in accordance with the following sequence:
 - 1. Slopes whose vertical height is less than 5 feet shall be shaped, cleaned, and seeded (where required) in one operation.

3.4 EXCAVATION (FOR STRUCTURES)

- A. Conform to elevations and dimensions shown on the drawings. Extend excavation sufficient distance from footings and foundations to permit placing and removal of concrete formwork, installation of services, and for other construction required. Foundation concrete shall not be placed until the bearing stratum has been examined and found satisfactory for the design bearing capacity.
- B. Where rock is encountered, notify Engineer. When the entire structure will bear on rock, it shall be used to support the foundation. Where only a part of the foundation will bear on rock, excavate 8 inches below subgrade of floor or footings and backfill with aggregate fill and thoroughly compact.

3.5 SURFACE WATER CONTROL

- A. Control and remove unanticipated water seepage into excavation.

- B. Provide ditches, berms, and other devices to divert and drain surface water from excavation area.
- C. Divert surface water and seepage water within excavation areas into sumps or settling basins prior to pumping water into drainage channels and storm drains.

3.6 DEWATERING

- A. Design and provide dewatering system to permit Work to be completed on dry and stable subgrade.
- B. Operate dewatering system continuously until backfill is minimum 2 feet above normal ground water table elevation.
- C. When dewatering system cannot control water within excavation, notify Engineer and stop excavation work.
 - 1. Supplement or modify dewatering system and provide other remedial measures to control water within excavation.
 - 2. Demonstrate dewatering system operation complies with performance requirements before resuming excavation operations.
- D. Modify dewatering systems when operation causes or threatens to cause damage to new construction, existing site improvements, adjacent property, or adjacent water wells.
- E. Discharge groundwater and seepage water within excavation areas into sumps or settling basins prior to pumping water into drainage channels and storm drains.
- F. Remove dewatering and surface water control systems after dewatering operations are discontinued.

3.7 PROOFROLLING

- A. Proofroll areas to receive fill, pavement, and building slabs to identify areas of soft yielding soils.
 - 1. Use loaded tandem-axle pneumatic tired dump truck or large smooth drum roller.
 - 2. Load equipment to maximum 50 tons gross weight and make a minimum of 4 passes with 2 passes perpendicular to the others.
- B. Undercut such areas to firm soil, backfill with granular fill, and compact to density equal or greater than requirements for subsequent fill material.
- C. Do not proofroll or undercut until soil has been dewatered.

3.8 FIELD QUALITY CONTROL

- A. See Section 01 4000 - Quality Requirements, for general requirements for field inspection and testing.

- B. Provide for visual inspection of load-bearing excavated surfaces before placement of foundations.

3.9 PROTECTION

- A. Prevent displacement of banks and keep loose soil from falling into excavation; maintain soil stability.
- B. Protect bottom of excavations and soil adjacent to and beneath foundation from freezing.
- C. Protect structures, utilities and other facilities from damage caused by settlement, lateral movement, undermining, washout, and other hazards created by earth operations.

END OF SECTION

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SECTION 31 2316.13 - TRENCHING

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Backfilling and compacting for utilities outside the building.

1.2 RELATED REQUIREMENTS

- A. Section 31 2200 - Grading
- B. Section 31 2316 - Excavation: Building and foundation excavating.
- C. Section 31 2323 - Fill: Backfilling at building and foundations.

1.3 DEFINITIONS

- A. Utility: Any buried pipe, duct, conduit, or cable.
- B. Utility Structures: Manholes, catch basins, inlets, valve vaults, hand holes, and other utility access structures as indicated on Drawings.
- C. Trench Terminology:
 - 1. Trench Bottom: Area under bottom of trench supporting bedding.
 - 2. Bedding: Fill placed under utility pipe to 1/6 pipe diameter.
 - 3. Initial Backfill: Fill placed from 1/6 of outside pipe diameter to 12 inches above top of pipe.
 - 4. Final Backfill: Fill placed from initial backfill to subgrade

1.4 REFERENCES

- A. AASHTO T 180 - Standard Method of Test for Moisture-Density Relations of Soils Using a 4.54-kg (10-lb) Rammer and a 457-mm (18-in.) Drop 2022, with Errata .
- B. AASHTO T 99 - Standard Method of Test for Moisture-Density Relations of Soils Using a 2.5-kg (5.5-lb) Rammer and a 305-mm (12-in.) Drop 2015.
- C. ASTM C136/C136M - Standard Test Method for Sieve Analysis of Fine and Coarse Aggregates 2019.
- D. ASTM D1556/D1556M - Standard Test Method for Density and Unit Weight of Soil in Place by Sand-Cone Method 2015, with Editorial Revision (2016).
- E. ASTM D1557 - Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Modified Effort (56,000 ft-lbf/ft³ (2,700 kN-m/m³)) 2012 (Reapproved 2021).
- F. ASTM D2167 - Standard Test Method for Density and Unit Weight of Soil in Place by the Rubber Balloon Method 2015.

- G. ASTM D6938 - Standard Test Methods for In-Place Density and Water Content of Soil and Soil-Aggregate by Nuclear Methods (Shallow Depth) 2023.
- H. ASTM D2487 - Standard Practice for Classification of Soils for Engineering Purposes (Unified Soil Classification System) 2017, with Editorial Revision (2020).
- I. ASTM D4318 - Standard Test Methods for Liquid Limit, Plastic Limit, and Plasticity Index of Soils 2017, with Editorial Revision (2018).
- J. ASTM D698 - Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Standard Effort (12,400 ft-lbf/ft³ (600 kN-m/m³)) 2012 (Reapproved 2021).
- K. VDOT Road and Bridge Standards - Virginia Department of Transportation Road and Bridge Standards 2016.

1.5 SUBMITTALS

- A. See Section 01 3000 - Administrative Requirements, for submittal procedures.
- B. Materials Sources: Submit name of imported materials source.
- C. Compaction Density Test Reports.

1.6 FIELD MEASUREMENTS

- A. All excavation shall be unclassified regardless of material encountered.
- B. Unauthorized excavation consists of removal of materials beyond indicated subgrade elevations or side dimensions, without specific approval of Engineer. Unauthorized excavation shall be replaced at Contractor's expense.
- C. For trenches up to 6 feet deep, the pay limit width for additional and omitted excavations shall be the outside of the pipe bell, plus 12 inches. For trenches over 6 feet deep, the pay limit for additional and omitted excavations shall be the outside diameter of the pipe bell, plus 12 inches, plus 2 inches of width per foot for each foot of depth greater than 6 feet. For payment purposes, trench widths shall be considered uniform from top to bottom. Any excavation outside of the pay limit is considered unauthorized excavation unless approved by the Engineer.

1.7 DELIVERY, STORAGE, AND HANDLING

- A. When necessary, store materials on site in advance of need.
- B. When fill materials need to be stored on site, locate stockpiles where directed by the Engineer.
 - 1. Separate differing materials with dividers or stockpile separately to prevent intermixing.
 - 2. Prevent contamination.
 - 3. Protect stockpiles from erosion and deterioration of materials.

PART 2 PRODUCTS

2.1 FILL MATERIALS

- A. Aggregate fill shall meet VDOT requirements for No. 25 or No. 26 crusher run aggregate or No. 57 coarse aggregate.
- B. Clean earth fill shall be free of debris, roots, frozen materials, organic matter, rock or gravel larger than 1 inch in any dimension or other harmful matter.
- C. Native fill shall be 95 percent free of stones larger than 4 inches in any dimension or other harmful matter.
- D. Bedding Material: From trench bottom to 1/6 of outside pipe diameter.
 - 1. Pipe: Clean earth fill or aggregate fill.
 - 2. PVC Pipe: Aggregate fill.
- E. Bedding for Structures: Aggregate fill.
- F. Initial Backfill: From 1/6 of outside pipe diameter to 12 inches minimum above pipe.
 - 1. Pipe: Clean earth fill or aggregate fill.
 - 2. PVC Pipe: Aggregate fill.
- G. Final Backfill to Subgrade:
 - 1. Under Traveled Rights-of-Way: Aggregate fill.
 - 2. Under Landscape, Road Shoulders, and Existing or Future Paved Areas: Native fill or aggregate fill.

2.2 ACCESSORIES

- A. Concrete: Class A3 concrete conforming to VDOT Road and Bridge Standards.
 - 1. Compressive strength of 3,000 psi at 28 days.
 - 2. Air entrained, content of 6% (plus or minus 2%).
 - 3. Water cement ratio of 0.49.
 - 4. Slump of 1-5 inches.
 - 5. Minimum cement content of 588 lbs. per cubic yard.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Verify that survey bench marks and intended elevations for the work are as indicated.

3.2 PREPARATION

- A. Call Local Utility Line Information service at number shown on Drawings not less than three working days before performing Work.
 - 1. Request underground utilities to be located and marked within and surrounding construction areas.
- B. Identify required lines, levels, contours, and datum locations.
- C. See Section 31 2200 for additional requirements.
- D. Locate, identify, and protect utilities that remain and protect from damage.
- E. Notify utility company to remove and relocate utilities.
- F. Protect bench marks, survey control points, existing structures, fences, sidewalks, paving, and curbs from excavating equipment and vehicular traffic.
- G. Protect plants, lawns, rock outcroppings, and other features to remain.

3.3 TRENCHING

- A. Excavate subsoil required for utilities.
- B. Notify Architect/Engineer of unexpected subsurface conditions and discontinue affected Work in area until notified to resume work.
- C. Slope banks of excavations deeper than 4 feet to angle of repose or less until shored.
- D. Do not interfere with 45 degree bearing splay of foundations.
- E. Cut trenches wide enough to allow inspection of installed utilities.
- F. Hand trim excavations. Remove loose matter.
- G. Remove large stones and other hard matter that could damage piping or impede consistent backfilling or compaction.
- H. Remove excavated material that is unsuitable for re-use from site.
- I. Stockpile excavated material to be re-used in area designated on site in accordance with Section 31 2200.
- J. Remove excess excavated material from site.
- K. Trench Width: Excavate bottom of trenches in accordance with the following schedule or as indicated on Drawings:
 - 1. 0 - 6' Trench Depth: Outside diameter of pipe bell, plus 12 inches.
 - 2. Greater than 6' Trench Depth: Outside diameter of pipe bell, plus 12 inches, plus 2 inches of width per foot for each foot of depth greater than 6 feet.

- L. Excavate trenches to depth indicated on Drawings. Provide uniform and continuous bearing and support for bedding material and pipe.
- M. Maintain vertical faces to an elevation equal to 12 inches above top of pipe.
 - 1. When Project conditions permit, side walls may be sloped or benched above this elevation.
 - 2. When side walls cannot be sloped, provide sheeting and shoring to protect excavation as specified in this Section.
- N. Support Utilities and Structures:
 - 1. Keep trench width at top of trench to practical minimum to protect adjacent or crossing utility lines.
 - 2. Support utilities crossing trench by means acceptable to utility company.
 - 3. Do not interfere with 45-degree bearing splay of foundations.
 - 4. Provide temporary support for structures above and below ground.
- O. When subsurface materials at bottom of trench are loose or soft, excavate to firm subgrade or to depth directed by Engineer.
 - 1. Cut out soft areas of subgrade not capable of compaction in place.
 - 2. Backfill with aggregate fill and compact to density equal to or greater than requirements of subsequent backfill material.
- P. When rock is encountered, excavate rock encountered 6 inches below the pipe for pipe bedding.
- Q. Where rock is encountered so that a manhole, vault, or other structure will bear on rock, it shall be used to support the foundation. Where only a part of the foundation will bear on rock, at least 8 inches of compacted granular material shall be provided below bottom of footings.
- R. Trim excavation. Hand trim for bell and spigot pipe joints where required. Shape trench bottom to afford circumferential support to the lower fourth of the pipe or excavate 6 inches below bottom of pipe for pipe bedding. Remove loose matter.
- S. Excavate trench bottom for PVC pipe to a depth 3 inches below the pipe and backfill overdepth with aggregate fill.
- T. Correct over excavated areas with compacted backfill as specified for authorized excavation or replace with flowable fill as directed by Engineer.
- U. All excavating in stream channels shall be performed in accordance with all applicable permits for the project.

3.4 SURFACE WATER CONTROL

- A. Control and remove unanticipated water seepage into excavation.
- B. Provide ditches, berms, and other devices to divert and drain surface water from excavation area.
- C. Divert surface water and seepage water within excavation areas into sumps or settling basins prior to pumping water into drainage channels and storm drains.

3.5 DEWATERING

- A. Design and provide dewatering system to permit Work to be completed on dry and stable subgrade.
- B. Operate dewatering system continuously until backfill is minimum 2 feet above normal ground water table elevation.
- C. When dewatering system cannot control water within excavation, notify Engineer and stop excavation work.
 - 1. Supplement or modify dewatering system and provide other remedial measures to control water within excavation.
 - 2. Demonstrate dewatering system operation complies with performance requirements before resuming excavation operations.
- D. Modify dewatering systems when operation causes or threatens to cause damage to new construction, existing site improvements, adjacent property, or adjacent water wells.
- E. Discharge ground water and seepage water within excavation areas into sumps or settling basins prior to pumping water into drainage channels and storm drains.
- F. Remove dewatering and surface water control systems after dewatering operations are discontinued.

3.6 BEDDING, HAUNCHING, AND INITIAL BACKFILL

- A. Place bedding full width of trench to the depth indicated on Drawings and compact by tamping or rodding to prevent settlement. Perform in accordance with schedule at end of this Section.
- B. Install utility pipe and conduit in accordance with the respective utility section.
- C. Support pipe uniformly along entire length of pipe.
- D. Carefully place initial backfill to 12 inches above top of pipe or to depth indicated on Drawings. Compact in accordance with schedule at end of this Section.
- E. Backfill shall be placed by hand, uniformly on each side of the pipe and compacted in layers not exceeding 6 inches.

3.7 FINAL BACKFILLING TO SUBGRADE

- A. Backfill to contours and elevations indicated using unfrozen materials.
- B. Fill up to finish grade elevations unless otherwise indicated.
- C. Employ a placement method that does not disturb or damage other work.
- D. Systematically fill to allow maximum time for natural settlement. Do not fill over porous, wet, frozen or spongy subgrade surfaces.
- E. Maintain optimum moisture content of fill materials to attain required compaction density.
- F. Place fill material in continuous layers and compact in accordance with schedule at end of this section.
- G. Layers shall not exceed 12 inches. Under road shoulders and under existing or future paved areas, layers shall not exceed 8 inches.
- H. Employ compaction equipment suitable for materials to be compacted and work area locations. Use power driven hand tampers for compacting materials adjacent to structures.
- I. Replace topsoil to at least original depth in areas to be seeded.

3.8 DISPOSAL OF EXCESS OR UNSATISFACTORY MATERIALS

- A. Dispose of excess or unsatisfactory material offsite and legally.
- B. Furnish Engineer with certificate of disposal site or agreement from private property owner.

3.9 TOLERANCES

- A. Top Surface of General Backfilling: Plus or minus 1 inch from required elevations.

3.10 FIELD QUALITY CONTROL

- A. See Section 01 4000 - Quality Requirements, for general requirements for field inspection and testing.
- B. Perform laboratory material tests in accordance with ASTM D1557 or AASHTO T 180.
- C. Perform in place compaction tests in accordance with the following:
 - 1. Density Tests: ASTM D1556/D1556M, ASTM D2167, ASTM D6938, or ASTM D698 (AASHTO T 99).
 - 2. Moisture Tests: ASTM D6938.
- D. Frequency of Tests: One test per lift for every 1,000 feet of trench.
- E. Contractor shall employ an independent testing firm to assure compliance with these specifications for materials and compaction.
- F. If tests indicate Work does not meet specified requirements, remove Work, replace, compact, and retest.

3.11 PROTECTION OF FINISHED WORK

- A. Section 01 7000 - Execution and Closeout Requirements: Protecting finished Work.
- B. Reshape and re-compact fills subjected to vehicular traffic during construction.

3.12 CLEANING

- A. Leave unused materials in a neat, compact stockpile.
- B. Remove unused stockpiled materials, leave area in a clean and neat condition. Grade stockpile area to prevent standing surface water.
- C. Leave borrow areas in a clean and neat condition. Grade to prevent standing surface water.

3.13 SCHEDULE OF COMPACTION

- A. Compact each layer of fill or backfill to not less than the following percentages of the maximum density at optimum moisture content as determined by ASTM D698 (AASHTO T 99):
 - 1. 100 percent beneath and within 25 feet of buildings and structures, including those shown for future construction.
 - 2. 95 percent beneath pavements, walks, and road shoulders, including those shown for future construction.
 - 3. 90 percent in other unpaved areas.
 - 4. Minimum compaction in any area shall be to the density of the adjacent soil.

END OF SECTION

SECTION 31 2323 - FILL

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Filling, backfilling, and compacting for footings, slabs-on-grade, paving, site structures, and utilities.
- B. Filling holes, pits, and excavations generated as a result of removal (demolition) operations.

1.2 RELATED REQUIREMENTS

- A. Section 31 2200 - Grading
- B. Section 31 2316 - Excavation: Removal and handling of soil to be re-used.
- C. Section 31 2316.13 - Trenching: Excavating for utility trenches outside the building to utility main connections.

1.3 REFERENCE STANDARDS

- A. AASHTO T 180 - Standard Method of Test for Moisture-Density Relations of Soils Using a 4.54-kg (10-lb) Rammer and a 457-mm (18-in.) Drop 2022, with Errata .
- B. ASTM C136/C136M - Standard Test Method for Sieve Analysis of Fine and Coarse Aggregates 2019.
- C. ASTM D1556/D1556M - Standard Test Method for Density and Unit Weight of Soil in Place by Sand-Cone Method 2015, with Editorial Revision (2016).
- D. ASTM D1557 - Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Modified Effort (56,000 ft-lbf/ft³ (2,700 kN-m/m³)) 2012 (Reapproved 2021).
- E. ASTM D2167 - Standard Test Method for Density and Unit Weight of Soil in Place by the Rubber Balloon Method 2015.
- F. ASTM D2487 - Standard Practice for Classification of Soils for Engineering Purposes (Unified Soil Classification System) 2017, with Editorial Revision (2020).
- G. ASTM D4318 - Standard Test Methods for Liquid Limit, Plastic Limit, and Plasticity Index of Soils 2017, with Editorial Revision (2018).
- H. ASTM D6938 - Standard Test Methods for In-Place Density and Water Content of Soil and Soil-Aggregate by Nuclear Methods (Shallow Depth) 2023.
- I. ASTM D698 - Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Standard Effort (12,400 ft-lbf/ft³ (600 kN-m/m³)) 2012 (Reapproved 2021).

1.4 SUBMITTALS

- A. See Section 01 3000 - Administrative Requirements, for submittal procedures.

- B. Materials Sources: Submit name of imported materials source.
- C. Compaction Density Test Reports.

1.5 DELIVERY, STORAGE, AND HANDLING

- A. When necessary, store materials on site in advance of need.
- B. When fill materials need to be stored on site, locate stockpiles where indicated.
 - 1. Separate differing materials with dividers or stockpile separately to prevent intermixing.
 - 2. Prevent contamination.
 - 3. Protect stockpiles from erosion and deterioration of materials.

1.6 COMPACTION TESTING

- A. Contractor will provide compaction testing.
- B. Engage an independent, qualified testing laboratory to provide testing in this section. Results shall be submitted to the Engineer. Test locations shall be approved by Engineer.

1.7 EXCAVATION

- A. See Section 31 2316 for excavation.

PART 2 PRODUCTS

2.1 FILL MATERIALS

- A. Aggregate fill shall meet VDOT requirements for No. 57 coarse aggregate.
- B. Filtering material shall be a graded mixture of natural or crushed gravel, crushed stone, or natural sand with 100 percent passing a 1/2-inch sieve and none passing a No. 50 sieve, ASTM D448, Size No. 8.
- C. Structural fill shall be free of debris, roots, frozen materials, organic matter, rock or gravel larger than 1 inch in any dimension, or other harmful matter.
- D. Native fill shall be 95% free from stones larger than 4 inches in any dimension or other harmful matter.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Verify that survey bench marks and intended elevations for the Work are as indicated.
- B. See Section 31 2200 for additional requirements.
- C. Verify subdrainage, dampproofing, or waterproofing installation has been inspected.

- D. Verify structural ability of unsupported walls to support imposed loads by the fill.

3.2 PREPARATION

- A. Scarify subgrade surface to a depth of 6 inches to identify soft spots.
- B. Cut out soft areas of subgrade not capable of compaction in place. Backfill with structural fill.
- C. Compact subgrade to density equal to or greater than requirements for subsequent fill material.
- D. Until ready to fill, maintain excavations and prevent loose soil from falling into excavation.

3.3 FILLING

- A. Fill to contours and elevations indicated using unfrozen materials.
- B. Fill up to finish grade elevations unless otherwise indicated.
- C. Employ a placement method that does not disturb or damage other work.
- D. Systematically fill to allow maximum time for natural settlement. Do not fill over porous, wet, frozen or spongy subgrade surfaces.
- E. Maintain optimum moisture content of fill materials to attain required compaction density.
- F. Obtain fill from excavation or other approved sources. The material shall be such that it can be compacted in accordance with these specifications. Maximum rock size shall be 75 percent of compacted layer thickness or maximum of 6 inches diameter. Prevent nesting of large rocks and compact fill to prevent voids. Maximum rock size within 12 inches of footing elevations shall be 2-inch diameter.
- G. Remove and replace, or scarify and air dry, soil material that is too wet to permit compaction to specified percentage of maximum density.
- H. Fill material that has been removed as too wet to permit compaction may be stockpiled or spread to dry. When moisture content is reduced to a satisfactory value, the material may be used as fill or backfill.
- I. Place fill to obtain elevations shown on the Drawings. Do not place fill on muddy or frozen areas.
- J. Excavate depressions caused by removal of stumps or other clearing operations to firm subgrade, fill with clean earthfill, and compact as specified.
- K. When the existing ground surface has been disturbed and has a density of less than that specified for the particular area classification, scarify the ground surface, pulverize, adjust moisture condition to optimum moisture content, and compact to required depth and percentage of maximum density.
- L. Backfill footing drains as shown on Drawings.

- M. Place backfill and fill materials evenly adjacent to structures. Prevent wedging action of the backfill against structures by carrying the material uniformly around the structure to approximately the same elevation in each lift.
- N. Place aggregate fill material under all building slabs on grade. Compact to density required for fill under buildings.
- O. Place fill material in continuous layers and compact in accordance with schedule at end of this Section.
- P. Backfill against supported foundation walls. Do not backfill against unsupported foundation walls.
- Q. Backfill simultaneously on each side of unsupported foundation walls until supports are in place.
- R. Slope grade away from building minimum 2 percent slope for minimum distance of 10 ft., unless noted otherwise.
- S. Make gradual grade changes. Blend slope into level areas.
- T. Remove surplus backfill materials from site.
- U. Leave fill material stockpile areas free of excess fill materials.
- V. Reshape and re-compact fills subjected to vehicular traffic.

3.4 COMPACTION

- A. Compact soil materials using equipment suitable for materials to be compacted and work area locations. Use power-driven hand tampers for compacting materials adjacent to structures.
- B. Provide equipment capable of adding moisture to the soil material as determined by moisture-density tests.
- C. Where required, uniformly apply water to the surface of subgrade or layer of soil material in such manner as to prevent free water appearing on the surface, either during or subsequent to compaction operations.

3.5 TOLERANCES

- A. Top Surface of General Filling: Plus or minus 1 inch from required elevations.

3.6 FIELD QUALITY CONTROL

- A. See Section 01 4000 - Quality Requirements, for general requirements for field inspection and testing.
- B. Perform laboratory material tests in accordance with ASTM D1557, ASTM D698, or AASHTO T 180.
- C. Perform in place compaction tests in accordance with the following:

1. Density Tests: ASTM D1556/D1556M, ASTM D2167, or ASTM D6938.
 2. Moisture Tests: ASTM D6938.
- D. If tests indicate Work does not meet specified requirements, remove Work, replace and retest.
- E. Frequency of Tests: Tests shall be performed on each lift of fill placed at the rates of one (1) test per 10,000 square feet of fill area, but not less than two (2) sets per lift, regardless of size of fill.

3.7 PROTECTION OF FINISHED WORK

- A. Section 01 7000 - Execution and Closeout Requirements: Protecting finished Work.
- B. Reshape and re-compact fills subjected to vehicular traffic and erosion.
- C. Where compacted areas are disturbed by subsequent construction or adverse weather, scarify the surface, reshape, and compact to the required density. Use hand tamper for recompaction over underground utilities and underfloor subdrains.
- D. Protect graded areas from the action of the elements. Settlement or other damage that occurs prior to acceptance of the Work shall be repaired and grades satisfactorily re-established.
- E. Repair after cleanup. Upon completion of construction work and after spoil and debris have been removed, regrade any areas disturbed by the operations.

3.8 CLEANING

- A. Remove unused stockpiled materials, leave area in a clean and neat condition. Grade stockpile area to prevent standing surface water.
- B. Leave borrow areas in a clean and neat condition. Grade to prevent standing surface water.

3.9 SCHEDULE

- A. Fill Beneath and Within 25 Feet of Buildings and Structures, Including Those Shown for Future Construction
1. Place structural fill and aggregate fill in layers not more than 8 inches in loose depth.
 2. Compact to minimum 100 percent of maximum density at optimum moisture content.
- B. Fill Beneath Pavements, Walk, and Road Shoulders, Including Those Shown for Future Construction:
1. Place structural fill and aggregate fill in layers not more than 8 inches in loose depth.
 2. Compact to minimum 95 percent of maximum density at optimum moisture content.
- C. Fill Beneath Other Unpaved Areas:

1. Place structural fill and aggregate fill in layers not more than 12 inches in loose depth.
2. Compact to minimum 90 percent of maximum density at optimum moisture content.

END OF SECTION

SECTION 32 1123 - AGGREGATE BASE COURSES

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Aggregate base course.
- B. Paving aggregates.

1.2 RELATED REQUIREMENTS

- A. Section 31 2200 - Grading
- B. Section 31 2316.13 - Trenching: Compacted fill over utility trenches under base course.
- C. Section 31 2323 - Fill: Topsoil fill at areas adjacent to aggregate base course; compacted fill under base course.

1.3 REFERENCE STANDARDS

- A. AASHTO M 147 - Standard Specification for Materials for Aggregate and Soil–Aggregate Subbase, Base, and Surface Courses 2017 (Reapproved 2021).
- B. AASHTO T 180 - Standard Method of Test for Moisture-Density Relations of Soils Using a 4.54-kg (10-lb) Rammer and a 457-mm (18-in.) Drop 2022, with Errata .
- C. ASTM C136/C136M - Standard Test Method for Sieve Analysis of Fine and Coarse Aggregates 2019.
- D. ASTM D2487 - Standard Practice for Classification of Soils for Engineering Purposes (Unified Soil Classification System) 2017, with Editorial Revision (2020).
- E. ASTM D698 - Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Standard Effort (12,400 ft-lbf/ft³ (600 kN-m/m³)) 2012 (Reapproved 2021).
- F. ASTM D1556/D1556M - Standard Test Method for Density and Unit Weight of Soil in Place by Sand-Cone Method 2015, with Editorial Revision (2016).
- G. ASTM D1557 - Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Modified Effort (56,000 ft-lbf/ft³ (2,700 kN-m/m³)) 2012 (Reapproved 2021).
- H. ASTM D2167 - Standard Test Method for Density and Unit Weight of Soil in Place by the Rubber Balloon Method 2015.
- I. ASTM D4318 - Standard Test Methods for Liquid Limit, Plastic Limit, and Plasticity Index of Soils 2017, with Editorial Revision (2018).
- J. ASTM D6938 - Standard Test Methods for In-Place Density and Water Content of Soil and Soil-Aggregate by Nuclear Methods (Shallow Depth) 2023.

- K. VDOT Road and Bridge Specifications - Virginia Department of Transportation Road and Bridge Specifications 2016.

1.4 SUBMITTALS

- A. See Section 01 3000 - Administrative Requirements, for submittal procedures.
- B. Samples: 10 lb. sample of each type of aggregate; submit in air-tight containers to testing laboratory.
- C. Materials Sources: Submit name of imported materials source.
- D. Aggregate Composition Test Reports: Results of laboratory tests on proposed and actual materials used.
- E. Compaction Density Test Reports.
- F. Manufacturer's Certificate: Certify products meet or exceed specified requirements.

1.5 DELIVERY, STORAGE, AND HANDLING

- A. When necessary, store materials on site in advance of need.
- B. When aggregate materials need to be stored on site, locate where directed by Owner.
- C. Aggregate Storage, General:
 - 1. Separate differing materials with dividers or stockpile separately to prevent intermixing.
 - 2. Prevent contamination.
 - 3. Protect stockpiles from erosion and deterioration of materials.

PART 2 PRODUCTS

2.1 MATERIALS

- A. Subbase and Aggregate Base Material: Coarse aggregate type as indicated on Drawings conforming to Section 208 of the VDOT Road and Bridge Specifications.
- B. Fine Aggregate: Natural sand or stone sand type as indicated on Drawings conforming to Section 202 of the VDOT Road and Bridge Specifications.
- C. Coarse Aggregate: Coarse aggregate type as indicated on Drawings conforming to Section 203 of the VDOT Road and Bridge Specifications.
- D. Crusher Run Aggregate: Crusher run aggregate type as indicated on Drawings conforming to Section 205 of the VDOT Road and Bridge Specifications.
- E. Geotextile Fabric: Non-biodegradable, type as indicated on the Drawings conforming to Section 245 of the VDOT Road and Bridge Specifications.

2.2 SOURCE QUALITY CONTROL

- A. See Section 01 4000 - Quality Requirements, for general requirements for testing and analysis of aggregate materials.
- B. Where aggregate materials are specified using ASTM D2487 classification, test and analyze samples for compliance before delivery to site.
- C. If tests indicate materials do not meet specified requirements, change material and retest.
- D. Provide materials of each type from same source throughout the Work.
- E. Use sources approved by VDOT.
- F. Perform Work in accordance with VDOT Road and Bridge Specifications; maintain one copy of document on site.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Verify that survey bench marks and intended elevations for the work are as indicated.
- B. Verify substrate has been inspected, gradients and elevations are correct, and is dry.

3.2 PREPARATION

- A. Correct irregularities in substrate gradient and elevation by scarifying, reshaping, and re-compacting.
- B. Do not place aggregate on soft, muddy, or frozen surfaces.

3.3 INSTALLATION

- A. Place aggregate in minimum 3-inch and maximum 6-inch layers and roller compact to specified density. When total thickness is 6 inches or less, place in one layer. When total thickness is greater than 6 inches, place in two equal layers.
- B. Have each layer of material compacted and approved prior to placing succeeding layers.
- C. Level and contour surfaces to elevations and gradients indicated on Drawings.
- D. Add small quantities of fine aggregate to coarse aggregate when required to assist compaction.
- E. Maintain optimum moisture content of fill materials to attain required compaction density.
- F. Use mechanical tamping equipment in areas inaccessible to compaction equipment.

3.4 TOLERANCES

- A. Flatness: Maximum variation of 1/2-inch measured with 10 foot straight edge.
- B. Scheduled Compacted Thickness: Within 1/2-inch.

- C. Variation From Design Elevation: Within 1/2-inch.

3.5 FIELD QUALITY CONTROL

- A. See Section 01 4000 - Quality Requirements, for general requirements for field inspection and testing.
- B. Perform compaction density testing on compacted aggregate base course in accordance with ASTM D1556.
- C. Evaluate results in relation to compaction curve determined by testing uncompacted material in accordance with ASTM D698 ("Standard Proctor").
- D. If tests indicate work does not meet specified requirements, remove work, replace and retest.
- E. Frequency of Tests: Two tests per layer for every 5,000 square feet.
- F. Proof roll compacted aggregate at surfaces that will be under slabs-on-grade, pavers, and paving.

3.6 CLEANING

- A. Remove unused stockpiled materials, leave area in a clean and neat condition. Grade stockpile area to prevent standing surface water.
- B. Leave borrow areas in a clean and neat condition. Grade to prevent standing surface water.

END OF SECTION

SECTION 32 1216 - ASPHALT PAVING

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Aggregate base course.
- B. Single course bituminous concrete paving.
- C. Double course bituminous concrete paving.
- D. Surface sealer.

1.2 RELATED REQUIREMENTS

- A. Section 31 2200 - Grading
- B. Section 31 2323 - Fill: Compacted subgrade for paving.
- C. Section 32 1123 - Aggregate Base Courses: Aggregate base course.

1.3 REFERENCE STANDARDS

- A. AI MS-2 - Asphalt Mix Design Methods 2015.
- B. AI MS-19 - Basic Asphalt Emulsion Manual 2008.
- C. ASTM D946 - Standard Specification for Penetration-Graded Asphalt Cement for Use in Pavement Construction 2009a.
- D. VDOT Road and Bridge Specifications - Virginia Department of Transportation Road and Bridge Specifications 2016.

1.4 SUBMITTALS

- A. Product Data:
 - 1. Submit product information for asphalt and aggregate materials.
- B. Manufacturer's Certification: Certify products are produced at a plant approved by VDOT and meet or exceed specified requirements.

1.5 QUALITY ASSURANCE

- A. Perform Work in accordance with Section 315 of the VDOT Road and Bridge Specifications.
- B. Maintain one copy of document on site.
- C. Obtain materials from the same source throughout.
- D. Use sources and mixing plant approved by VDOT.

1.6 FIELD CONDITIONS

- A. Do not place asphalt base course or intermediate course when ambient air or road surface temperature is less than 40 degrees F for Mix Designation A; 50 degrees F for Mix Designations D, E, M, and S; or if surface is wet or frozen.
- B. Do not place asphalt surface course when ambient air or base surface temperature is less than 40 degrees F for Mix Designation A; 50 degrees F for Mix Designations D, E, M, and S; or if surface is wet or frozen.
- C. Place bitumen mixture when temperature is not more than 15 degrees F less than initial mixing temperature and not more than maximum specified temperature.

PART 2 PRODUCTS

2.1 MATERIALS

- A. Asphalt Concrete Materials: Conform to Section 211 of VDOT Road and Bridge Specifications.
- B. Prime Coat and Tack Coat: Conform to Sections 310 and 311 of VDOT Road and Bridge Specifications.
- C. Reclaimed Asphalt Pavement (RAP): Processed material obtained by milling or full depth removal of existing asphalt concrete pavements. Conform to Section 211 of VDOT Road and Bridge Specifications.
- D. Sand: Fine aggregate, natural sand or stone sand conforming to Section 202 of VDOT Road and Bridge Specifications.
- E. Mineral Filler: Finely ground particles of limestone, hydrated lime or other mineral dust, free of foreign matter.

2.2 ASPHALT PAVING MIXES AND MIX DESIGN

- A. Use dry material to avoid foaming. Mix uniformly.
- B. General: Use Superpave mix design conforming to Section 211 of the VDOT Road and Bridge Specifications.
- C. Wedging or Leveling Mix: Conform to intermediate course.
- D. Submit proposed mix design of each class of mix for review prior to beginning of Work.

2.3 SOURCE QUALITY CONTROL

- A. Obtain materials from plant approved by VDOT.
- B. Test plant samples and mix design in accordance with Section 211 of the VDOT Road and Bridge Specifications.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Verify utilities indicated under paving are installed with excavations and trenches backfilled and compacted.
- B. Verify compacted subgrade and aggregate base is dry and ready to support paving and imposed loads.

3.2 BASE COURSE

- A. Place and compact base course.
- B. Section 32 1123 - Aggregate Base Courses.

3.3 PREPARATION - PRIMER

- A. Apply primer in accordance with Section 311 of the VDOT Road and Bridge Specifications.
- B. Apply primer to contact surfaces of curbs and gutters.
- C. Use clean sand to blot excess primer.

3.4 PREPARATION - TACK COAT

- A. Apply tack coat in accordance with Section 310 of the VDOT Road and Bridge Specifications.
- B. Apply tack coat on asphalt or concrete surfaces over subgrade surface at uniform rate of 0.05 to 0.10 gallon/sq. yd. (undiluted) and 0.10 to 0.15 gallon/sq. yd. (diluted).
- C. Apply tack coat to contact surfaces of curbs and gutters.
- D. Coat surfaces of manhole, catch basin, and utility structure frames with oil to prevent bond with asphalt pavement. Do not tack coat these surfaces.

3.5 PLACING ASPHALT PAVEMENT - SINGLE COURSE

- A. Install Work in accordance with Section 315 of the VDOT Road and Bridge Specifications.
- B. Place asphalt within 24 hours of applying primer or tack coat.
- C. Place to thickness identified on the Drawings.
- D. Compact pavement by rolling to specified density. Do not displace or extrude pavement from position. Hand compact in areas inaccessible to rolling equipment.
- E. Perform rolling with consecutive passes to achieve even and smooth finish without roller marks.

3.6 PLACING ASPHALT PAVEMENT - DOUBLE COURSE

- A. Place asphalt binder course within 24 hours of applying primer or tack coat.
- B. Place binder course to thickness identified on the Drawings.
- C. Place wearing course within two hours of placing and compacting binder course.

- D. Place wearing course to thickness identified on the Drawings.
- E. Install gutter drainage grilles and frames, manhole frames, and covers in correct position and elevation.
- F. Compact pavement by rolling to specified density. Do not displace or extrude pavement from position. Hand compact in areas inaccessible to rolling equipment.
- G. Perform rolling with consecutive passes to achieve even and smooth finish, without roller marks.

3.7 JOINTS

A. Transverse Joints

- 1. When Work is suspended long enough to allow mixture to chill, construct transverse joint.
- 2. Use butt joint when traffic will not pass over pavement.
- 3. Use sloped wedge ahead of the end of pavement when traffic will pass over pavement. Place paper parting strip to removal of wedge.
- 4. Tack coat edge of pavement prior to placing adjoining pavement.

B. Longitudinal Joints

- 1. Tack the edge of longitudinal joints prior to placing adjoining pavement.
- 2. Pinch joint by rolling immediately behind the paver.
- 3. Offset longitudinal joints in each layer by approximately 6 inches.

3.8 TOLERANCES

- A. Flatness: Maximum variation of 1/4 inch measured with 10 foot straight edge.
- B. Compacted Thickness: Shall be in accordance with Section 315 of the VDOT Road and Bridge Specifications.
- C. Variation from True Elevation: Within 1/2 inch.

3.9 FIELD QUALITY CONTROL

- A. See Section 01 4000 - Quality Requirements, for general requirements for quality control.
- B. Perform Contractor Quality Control Program in accordance with Section 315 of VDOT Road and Bridge Specifications.
- C. When tests indicate Work does not meet specified requirements, remove Work, replace, and retest.

3.10 PROTECTION

- A. Immediately after placement, protect pavement from mechanical injury for 7 days or until surface temperature is less than 140 degrees F.

END OF SECTION

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SECTION 32 9219 - SEEDING

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Preparation of subsoil.
- B. Placing topsoil.
- C. Seeding, mulching and fertilizer.
- D. Maintenance.

1.2 RELATED REQUIREMENTS

- A. Section 31 2200 - Grading: Preparation of subsoil and placement of topsoil in preparation for the Work of this Section.
- B. Section 31 2323 - Fill: Topsoil material.

1.3 REFERENCE STANDARDS

- A. ASTM D977 - Standard Specification for Emulsified Asphalt 13e1.

1.4 DEFINITIONS

- A. Weeds: Include Dandelion, Jimsonweed, Quackgrass, Horsetail, Morning Glory, Rush Grass, Mustard, Lambsquarter, Chickweed, Cress, Crabgrass, Canadian Thistle, Nutgrass, Poison Oak, Blackberry, Tansy Ragwort, Bermuda Grass, Johnson Grass, Poison Ivy, Nut Sedge, Nimble Will, Bindweed, Bent Grass, Wild Garlic, Perennial Sorrel, Brome Grass, and any vegetative species other than specified species to be established in given area.

1.5 SUBMITTALS

- A. See Section 01 3000 - Administrative Requirements, for submittal procedures.
- B. Product Data: Submit data for seed mix, fertilizer, mulch, and other accessories.
- C. Test Reports: Indicate topsoil nutrient and pH levels with recommended soil supplements and application rates.
- D. Manufacturer's Certificate: Certify products meet or exceed specified requirements.
- E. Maintenance Data: Include maintenance instructions, cutting method and maximum grass height; types, application frequency, and recommended coverage of fertilizer.

1.6 REGULATORY REQUIREMENTS

- A. Comply with regulatory agencies for fertilizer and herbicide composition.
- B. Provide certificate of compliance from authority having jurisdiction indicating approval of seed mixture.

- C. Perform Work in accordance with the Virginia Erosion and Sediment Control Handbook.

1.7 DELIVERY, STORAGE, AND HANDLING

- A. Deliver grass seed mixture in sealed containers. Seed in damaged packaging is not acceptable. Deliver seed mixture in containers showing percentage of seed mix, year of production, net weight, date of packaging, and location of packaging.
- B. Deliver fertilizer in waterproof bags showing weight, chemical analysis, and name of manufacturer.

PART 2 PRODUCTS

2.1 SEED MIXTURE

- A. Permanent Seeding

SPECIES	MINIMUM WEIGHT	MINIMUM PURITY	MINIMUM GERMINATION	SEEDING RATE (LBS. PER ACRE)
KENTUCKY 31 OR TURF TYPE TALL FESCUE	90%	97%	85%	225
KENTUCKY BLUEGRASS	10%	97%	85%	25

- B. Temporary Seeding:

SEEDING DATE	SPECIES	MINIMUM WEIGHT	MINIMUM PURITY	MINIMUM GERMINATION	SEEDING RATE (LBS. PER ACRE)
02/16-04/30	ANNUAL RYEGRASS	100%	97%	90%	100
05/01-08/31	GERMAN MILLET	100%	98%	85%	50
09/01-02/15	50/50 MIX OF ANNUAL RYEGRASS & CEREAL RYE	100%	97%	90%	100

2.2 SOIL MATERIALS

- A. Topsoil: Fertile, agricultural soil, typical for locality, capable of sustaining vigorous plant growth, taken from drained site; free of subsoil, clay or impurities, plants, large stones, waste, debris, contamination, weeds and roots; pH value of minimum 5.5 and maximum 7.5.
- B. Topsoil: Excavated from site and free of weeds.

2.3 ACCESSORIES

- A. Mulching Material:

1. Type I mulch shall be Curlex Blanket Erosion Control Fabric manufactured by American Excelsior Company. The fabric shall be manufactured of materials which degrade in 6 to 8 months under outdoor exposure.
 2. Type II mulch composed of threshed straw of cereal grain, pine needles, or wood fiber shall be free of objectionable weed seeds or other harmful material.
- B. Mulch Binder:
1. Asphalt adhesive for use with Type II mulch shall be emulsified asphalt meeting requirements of ASTM D977, Grade SS-1.
 2. Synthetic Mulch Binder for Use with Type II Mulch: Curasol, DCA-70, Petroset, or Terra Tack.
- C. Fertilizer: Commercial grade; recommended for grass, with fifty percent of the elements derived from organic sources; of proportion necessary to eliminate any deficiencies of topsoil, as indicated by analysis. When test is not available, use mixture to the following proportions:
1. Nitrogen: 10 percent.
 2. Phosphoric Acid: 20 percent.
 3. Soluble Potash: 10 percent.
- D. Water: Clean, fresh and free of substances or matter that could inhibit vigorous growth of grass.
- E. Erosion Fabric: EC-2 or EC-3 matting, open weave.
- F. Herbicide: As required to combat type of weeds encountered.
- G. Stakes: Softwood lumber, chisel pointed.
- H. String: Inorganic fiber.
- I. Lime: Lime shall be ground agricultural grade limestone. Fineness shall be such that 100 percent will pass a No. 20 sieve, and not less than 50 percent will pass a No. 100 sieve. Lime shall be as required by soil testing.

2.4 TESTS

- A. Provide analysis of topsoil fill under provisions of Section 01 4000.
- B. Analyze to ascertain percentage of nitrogen, phosphorus, potash, soluble salt content, organic matter content, and pH value.
- C. Testing is not required if recent tests are available for imported topsoil. Submit these test results to the testing laboratory for approval. Indicate, by test results, information necessary to determine suitability.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Verify that prepared soil base is ready to receive the work of this Section.

3.2 PREPARATION

- A. Prepare subgrade in accordance with Section 31 2200.
- B. Place topsoil in accordance with Section 31 2200.

3.3 FERTILIZING

- A. Apply fertilizer in accordance with manufacturer's instructions or at a rate recommended by soil analysis.
- B. Apply after smooth raking of topsoil and prior to roller compaction.
- C. Do not apply fertilizer at same time or with same machine as will be used to apply seed.
- D. Mix thoroughly into upper 3 inches of topsoil.
- E. Lightly water to aid the dissipation of fertilizer. Irrigate top level of soil uniformly.

3.4 SEEDING

- A. Apply seed at a rate evenly in two intersecting directions. Rake in lightly.
- B. Do not seed areas in excess of that which can be mulched on same day.
- C. Permanent Seeding Season:
 - 1. Appalachian Region:
 - a. Fall: August 15 - November 1.
 - b. Spring: March 1 - June 1.
- D. Do not sow immediately following rain, when ground is too dry, or during windy periods when winds are over 12 mph.
- E. Immediately following seeding, apply mulch at a rate of 4,500 lbs./acre or 2 bales per 1,000 square feet. Remove straw clumps from seeded area. Maintain clear of shrubs and trees.
- F. Apply water with a fine spray immediately after each area has been mulched. Saturate to 4 inches of soil.
- G. Following germination, immediately re-seed areas without germinated seeds that are larger than 8 by 8 inches.

3.5 HYDROSEEDING

- A. Apply fertilizer, mulch, and seeded slurry with a hydraulic seeder at a rate of 6 lbs per 1000 sq ft evenly in two intersecting directions.

- B. Apply water with a fine spray immediately after each area has been hydroseeded. Saturate to 4 inches of soil and maintain moisture levels 2 to 4 inches.
- C. Following germination, immediately re-seed areas without germinated seeds that are larger than 8 by 8 inches.

3.6 PROTECTION

- A. Identify seeded areas with stakes and string around area periphery. Set string height to 12 inches. Space stakes at 5 feet on center.
- B. Cover seeded slopes where grade is 3H:1V or greater with erosion fabric. Roll fabric onto slopes without stretching or pulling.
- C. Lay fabric smoothly on surface, bury top end of each section in 6 inch deep excavated topsoil trench. Provide 12 inch overlap of adjacent rolls. Backfill trench and rake smooth, level with adjacent soil.
- D. Secure outside edges and overlaps at 36 inch intervals with stakes.
- E. Lightly dress slopes with topsoil to ensure close contact between fabric and soil.
- F. At sides of ditches, lay fabric laps in direction of water flow. Lap ends and edges minimum 6 inches.

3.7 MAINTENANCE

- A. Warranty all seeded areas within 1 year from date of acceptance.
- B. Maintain seeded areas immediately after placement until grass is well established and exhibits a vigorous growing condition. In the event that growth is not established by final project inspection, continue the specified attention until acceptance by Owner.
- C. Mow grass at regular intervals to maintain at a maximum height of 2-1/2 inches. Do not cut more than 1/3 of grass blade at any one mowing.
- D. Neatly trim edges and hand clip where necessary.
- E. Immediately remove clippings after mowing and trimming.
- F. Water to prevent grass and soil from drying out.
- G. Roll surface to remove minor depressions or irregularities.
- H. Control growth of weeds. Apply herbicides in accordance with manufacturer's instructions. Remedy damage resulting from improper use of herbicides.
- I. Immediately reseed areas that show bare spots.
- J. Protect seeded areas with warning signs during maintenance period.

END OF SECTION

SECTION 33 1116 - WATER UTILITY DISTRIBUTION PIPING

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Pipe and fittings for water lines including domestic water lines and fire water lines.
- B. Tied Joint Restraint System.
- C. Valves, Fire hydrants, and Domestic water hydrants.

1.2 RELATED REQUIREMENTS

- A. Section 31 2316 - Excavation: Excavating of trenches.
- B. Section 31 2316.13 - Trenching: Excavating, bedding, and backfilling.
- C. Section 31 2323 - Fill: Bedding and backfilling.
- D. Section 33 1300 - Disinfecting of Water Utility Distribution: Disinfection of utility water piping.

1.3 REFERENCES

- A. ASTM D1784 - Standard Specification for Rigid Poly(Vinyl Chloride) (PVC) Plastic Pipe Compounds and Chlorinated Poly(Vinyl Chloride) (CPVC) Compounds; 2011.
- B. ASTM D1785 - Standard Specification for Poly(Vinyl Chloride) (PVC) Plastic Pipe, Schedules 40, 80, and 120; 2012.
- C. ASTM D2241 - Standard Specification for Poly (Vinyl Chloride) (PVC) Pressure-Rated Pipe (SDR Series); 2015.
- D. ASTM D2466 - Standard Specification for Poly(Vinyl Chloride) (PVC) Plastic Pipe Fittings, Schedule 40; 2015.
- E. ASTM D2855 - Standard Practice for Making Solvent-Cemented Joints with Poly(Vinyl Chloride) (PVC) Pipe and Fittings; 1996 (Reapproved 2010).
- F. ASTM F876 - Specification for Crosslinked Polyethylene (PEX/XLPE) Tubing

1.4 ADMINISTRATIVE REQUIREMENTS

- A. Preinstallation Meeting: Conduct a preinstallation meeting at least one week prior to the start of the work of this section; require attendance by all affected installers.
- B. Sequencing: Ensure that utility connections are achieved in an orderly and expeditious manner.

1.5 SUBMITTALS

- A. See Section 01 3000 - Administrative Requirements, for submittal procedures.

- B. Product Data: Provide data on pipe materials, pipe fittings, valves, hydrants and accessories.
- C. Manufacturer's Certificate: Certify that products meet or exceed specified requirements.
- D. Project Record Documents: Record actual locations of piping mains, valves, connections, thrust restraints, and invert elevations. Identify and describe unexpected variations to subsoil conditions or discovery of uncharted utilities.
- E. Tied Joint Restraint System:
 - 1. Shop Drawings: Indicate restrained joint details and materials being utilized. Submit layout drawings showing piece numbers and locations. Also, indicate restrained joint locations.
 - 2. Product Data: Submit catalog data for restrained joint details and installation instructions.
 - 3. Design Data: Submit design calculations showing determination of restrained lengths and submit joint restraint details. Use joint restraint devices specifically designed for applications described in manufacturer's data.
 - 4. Manufacturer's Installation Instructions: Submit installation instructions.
 - 5. Manufacturer's Certificate: Certify products meet or exceed specified requirements.

1.6 QUALITY ASSURANCE

- A. Perform Work in accordance with utility company requirements.

1.7 DELIVERY, STORAGE, AND HANDLING

- A. Deliver and store valves in shipping containers with labeling in place including manufacturer's name and pressure rating.
- B. Stockpile pipe in locations agreed upon by Owner, Contractor, and Architect/Engineer.

PART 2 PRODUCTS

2.1 WATER PIPE

- A. Polyethylene Tubing: ASTM F876 Crosslinked Polyethylene (PEX/XLPE) - 1"; marked with NSF 61 designation for potable water use.
 - 1. Fittings: Insert or compression type.

2.2 VALVES

- A. Valves: Manufacturer's name and pressure rating marked on valve body.
- B. Tapping Sleeves and Valves:
 - 1. Tapping Sleeves:

- a. Manufacturers:
 - 1) American Flow Control.
 - 2) Clow Valve Company.
 - 3) Mueller Co.
 - 4) Substitutions: Equal per Section 01 6000 - Product Requirements.
- b. Description: Ductile iron or cast-iron dual compression type.
- c. Outlet Flange Dimensions and Drilling: ASME B16.1, Class 125 and MSS SP-60.
- 2. Tapping Valves:
 - a. Description: AWWA C500, double disc with non-rising stem. Inlet flanges shall conform to ANSI B16.1, Class 125 and MSS SP-60. Mechanical joint outlets shall conform to AWWA C111.
- C. Ball Valves Up To 2 Inches:
 - 1. Manufacturers:
 - a. Crane; Crane Energy Flow Solutions.
 - b. Hammond Valve.
 - c. Milwaukee Valve Company.
 - d. NIBCO INC.
 - e. Stockham; Crane Energy Flow Solutions.
 - f. Substitutions: Equal per Section 01 6000 - Product Requirements.
 - 2. Brass or bronze body, teflon or chrome coated brass or bronze ball, teflon seats and rubber stem seals, tee stem pre-drilled for control rod, AWWA inlet end, compression outlet with electrical ground connector, with control rod, valve key, blowout proof stem, and extension box.
 - 3. Pressure rating equal to or greater than adjacent piping.
 - 4. Substitutions: See Section 01 6000 - Product Requirements.
- D. Valve Boxes:
 - 1. Valves 12-Inch Diameter and Smaller: Cast-iron, two-piece, as manufactured by Sigma, or approved equal.
 - 2. Cast iron lid marked "WATER".

2.3 TIED JOINT RESTRAINT SYSTEM

A. Manufacturers:

1. Dresser Piping Specialties.
2. Ebaa Iron Sales, Inc.
3. Star Pipe Products, Inc.
4. Substitutions: Equal per Section 01 6000 - Product Requirements.

B. Steel Types:

1. High Strength Low-Alloy Steel, ASTM A588, heat-treated.
2. High Strength Low-Alloy Steel, ASTM A588.
3. Carbon Steel ASTM A36.

C. Components:

1. Tie Bolts:
 - a. 5/8-inch for 2-inch and 3-inch mechanical joints, 3/4 inch for 4 inch to 12 inch mechanical joints and flanged joints, ASTM A588, Grade B; ASTM A325, Type 3, except increase tensile strength of full-body threaded section to 40,000 pounds minimum for 5/8 inch and 60,000 pounds minimum for 3/4 inch by heat-treating (quenching and tempering) to manufacturer's reheat and hardness specifications.
 - b. 3/4-inch for 14-inch to 24-inch mechanical joints, ASTM A588, Grade B; ASTM A325, Type 3.
 - c. 1 inch for 30-inch and larger mechanical joints and flanged joints, ASTM A588, Grade B; ASTM A325, Type 3; except increase tensile strength of full-body thread section to 100,000 pounds minimum by heat-treating (quenching and tempering) to manufacturer's reheat and hardness specifications.
2. Tie Nut: Hex nut for each tie bolt and tie rods.
 - a. ASTM A563, Grade C3; plain, zinc plated, or galvanized.
3. Tiepin: 3/4-inch round bar stock for use on bends and hydrants.
 - a. 6-inch hairpin shape, ASTM A588; ANSI B1.1; plain, zinc plated, or galvanized.
4. Tie Coupling: Used to extend continuous threaded rods and provided with center stop to aid installation.
 - a. ASTM A588; plain, zinc plated, or galvanized.
5. Tie Clamp: Retainer clamp for ductile iron, asbestos cement and polyvinyl chloride, push-on pipe in front of bell.

- a. ASTM A36; ASTM A307 Grade A; ASTM A563, Grade A; plain, zinc plated, or galvanized.
- 6. Tie Rod: Continuous threaded rod for cutting to desired lengths.
 - a. ASTM A588, Grade B; ASTM A325, Type 3; ANSI B1.1; plain zinc plated, or galvanized.
- 7. Tie Bar: Steel bar used to restrain push-in plugs.
 - a. ASTM A36; plain, zinc plated, or galvanized.
- 8. Tie Washer: Round flat washers.
 - a. ASTM A588, ASTM F436, Type 3; plain, zinc plated, or galvanized.
- 9. Factory Applied Finishes: Zinc plated or galvanized to meet the following requirements:
 - a. ASTM B633 for electrodeposited coating of zinc on steel.
 - b. ASTM A153 for galvanizing iron and steel hardware.
 - c. Galvanizing for rolled, pressed, and forged steel shapes: ASTM A123; minimum 2.0 ounces per square foot coating thickness; galvanize after fabrication.

2.4 CORPORATION STOP ASSEMBLY

- A. Manufacturers:
 - 1. Ford Meter Box Company.
 - 2. Mueller Co.
 - 3. McDonald Company.
 - 4. Substitutions: Equal per Section 01 6000 - Product Requirements.
- B. Corporation Stops:
 - 1. Brass or red brass alloy body conforming to ASTM B62.
 - 2. Inlet end threaded for tapping according to AWWA C800.
 - 3. Outlet end suitable for service pipe specified.
- C. Service Saddles:
 - 1. Double strap type, designed to hold pressures in excess of pipe working pressure.
 - 2. Manufacturers:
 - a. Mueller Co.
 - b. McDonald Company.

- c. Substitutions: Equal per Section 01 6000 - Product Requirements.

2.5 CURB STOP ASSEMBLY

A. Manufacturers:

1. Ford Meter Box Company.
2. Mueller Co.
3. McDonald Company.
4. Substitutions: Equal per Section 01 6000 - Product Requirements.

B. Curb Stops:

1. Brass or red brass alloy body conforming to ASTM B62.
2. Plug type valve.
3. Positive pressure sealing.

C. Curb Boxes and Covers:

1. Cast iron body, Extension Type or Buffalo Type.
2. Minneapolis or Arch Pattern Base.
3. Lid with inscription "WATER", with Pentagon Plug.

2.6 BEDDING AND COVER MATERIALS

- A. Bedding: As specified in Section 31 2316.13.

- B. Cover: As specified in Section 31 2316.13.

2.7 ACCESSORIES

- A. Concrete for Thrust Restraints: Concrete type specified in Section 03 3000.

- B. Meter: As required by the City of Staunton Public Works Department.

- C. Meter Setting Equipment: As required by the City of Staunton Public Works Department.

1. Provide at all meter settings.

- D. Manhole and Cover: As required by the City of Staunton Public Works Department.

E. Pipeline Markers:

1. Underground Pipeline Markers
 - a. Description: Plastic Ribbon and Trace Wire Tape: Bright colored blue, continuously printed with "WATER SERVICE" in large letters, minimum 6 inches wide by 4 mil

thick, with magnetic detectable conductor manufactured for direct burial service.

- b. Underground pipe markers shall be required for non-metallic pipe only.

PART 3 EXECUTION

3.1 EXAMINATION

- A. See Section 01 7000 - Execution and Closeout Requirements for verification of existing conditions before starting Work.
- B. Verify that building service connection and municipal utility water main size, location, and invert are as indicated.

3.2 PREPARATION

- A. Remove scale and dirt on inside and outside before assembly.
- B. Prepare pipe connections to equipment with flanges or unions.

3.3 TRENCHING

- A. See the Section 31 2316 - Excavation and Section 31 2323 - Fill for additional requirements.
- B. Hand trim excavation for accurate placement of pipe to elevations indicated.
- C. Form and place concrete for pipe thrust restraints at each change of pipe direction. Place concrete to permit full access to pipe and pipe accessories.
- D. Backfill around sides and to top of pipe with cover fill, tamp in place and compact, then complete backfilling.

3.4 BACKFILLING

- A. Backfill and compact around sides and to top of pipe in accordance with Section 31 2316.13.
- B. Maintain optimum moisture content of bedding material to attain required compaction density.

3.5 INSTALLATION - PIPE

- A. Install ductile iron pipe and fittings in accordance with AWWA C600.
- B. Install PVC pipe in accordance with AWWA C605 and manufacturer's instructions.
- C. Handle and assemble pipe in accordance with manufacturer's instructions and as indicated on Drawings.
- D. Steel Rods, Bolt, Lugs, and Brackets: Coat buried steel with one coat of coal tar coating before backfilling.
- E. Normal Conditions: Maintain 10 ft. horizontal and 18-inch vertical separation of water main from sewer piping or as required by local code.

- F. Unusual Conditions: When local conditions prevent a horizontal separation of at least 10 feet, the water line may be laid closer to a sewer or sewer manhole provided that:
 - 1. The bottom of the water line is at least 18 inches above the top of the sewer.
 - 2. Where this vertical separation cannot be obtained, the sewer shall be constructed of AWWA-approved water pipe pressure-tested in place to 50 psi without leakage prior to backfilling. The sewer manhole shall be of watertight construction and tested in place.
- G. Cut pipe ends square, ream pipe and tube ends to full pipe diameter, remove burrs. Use only equipment specifically designed for pipe cutting. The use of chisels or hand saws shall not be permitted. Grind edges smooth with beveled end for push-on connections.
- H. Flanged Joints: Not to be used in underground installations except within structures.
- I. Route pipe in straight line. Relay pipe that is out of alignment or grade.
- J. Sanitary and/or Combined Sewers or Sewer Manholes: No water pipes shall pass through or come in contact with any part of a sewer or sewer manhole.
- K. Install pipe with no high points. If unforeseen field conditions arise which necessitate high points, install air release valves as directed by Engineer.
- L. Install pipe to have bearing along entire length of pipe. Excavate bell holes to permit proper joint installation. Do not lay pipe in wet or frozen trench.
- M. Prevent foreign material from entering pipe during placement.
- N. Install pipe to allow for expansion and contraction without stressing pipe or joints.
- O. Close pipe openings with watertight plugs during work stoppages.
- P. Install access fittings to permit disinfection of water system performed under Section 33 1300.
- Q. Group piping with other site piping work whenever practical.
- R. Establish elevations of buried piping with not less than 3 ft. of cover. Measure depth of cover from final surface grade to top of pipe barrel.

3.6 INSTALLATION - VALVES AND HYDRANTS

- A. Install valves in conjunction with pipe installation; set valves plumb.
- B. Provide buried valves with valve boxes installed flush with finished grade.

3.7 SERVICE CONNECTIONS

- A. Install water service where indicated on the Drawings or as directed by the Owner and/or Architect/Engineer.
- B. Plug or cap all service lines that are not connected to structure plumbing.

- C. Provide water service as shown on the Drawings.
- D. Provide sleeve in retaining wall for service main. Support with reinforced concrete bridge. Calk enlarged sleeve watertight.
- E. Anchor service main to interior surface of foundation wall.
- F. Provide 18 gage, 0.0478 inch galvanized sheet metal sleeve surrounding service main to 6 inches above floor and 6 feet minimum below grade. Size for 2 inches minimum of glass fiber insulation stuffing.

3.8 INSTALLATION - TAPPING SLEEVES AND VALVES

- A. Install tapping sleeves and valves in accordance with utility company requirements, as indicated on Drawings and in accordance with manufacturer's instructions.
- B. Have Utility representative witness tap.

3.9 PIPELINE MARKERS

- A. Underground Pipeline Markers
 - 1. Install continuously over top of pipe buried 6 inches below subgrade, above pipe line.

3.10 CONCRETE THRUST RESTRAINT

- A. Provide valves, tees, bends, caps, and plugs with concrete thrust blocks as indicated on Drawings.
- B. Pour concrete thrust blocks against undisturbed earth. Locate thrust blocks at each elbow or change of pipe direction to resist resultant force and so pipe and fitting joints will be accessible for repair.
- C. Do not encase fitting joints and flanges.

3.11 TIED JOINT RESTRAINT

- A. Preparation
 - 1. Clean surfaces of pipe and fittings to receive tied joint restraint system.
- B. Installation
 - 1. Excavate and backfill in accordance with Section 31 2316.13 - Trenching.
 - 2. Install pipe and fittings in accordance with Section 33 3111 - Sanitary Utility Sewerage Piping.
 - 3. Install joint restraint system so joints are mechanically locked together to prevent joint separation.
- C. Erection Tolerances:

1. Section 01 4000 - Quality Requirements: Tolerances.
2. Torque nuts on mating threaded fasteners to 45 foot pounds to 60 foot pounds for 5/8-inch nut or per manufacturer's recommendations.
3. Torque nuts on mating threaded fasteners to 75 foot pounds to 90 foot pounds for 3/4-inch nut or per manufacturer's recommendations.
4. Torque 1 inch nuts to 100 foot pounds to 120 foot pounds or per manufacturer's recommendations.

3.12 DISINFECTION OF POTABLE WATER PIPING SYSTEM

- A. Flush and disinfect system in accordance with Section 33 1300.

3.13 FIELD QUALITY CONTROL

- A. Section 01 4000 - Quality Requirements: Requirements for inspecting, testing.
- B. Perform soil compaction tests in accordance with Section 31 2316.13.
- C. Perform pressure test on potable water distribution system in accordance with AWWA C600, AWWA C605, or as specified.
- D. Test Pressure:
 1. 1.5 x working pressure at test location elevation associated with the test section.
 - a. Do not exceed the rated pressure of pipe, fittings, valves, hydrants, and/or other related appurtenances.
- E. Pressure/Leakage Test Procedure:
 1. After completion of pipeline installation, including backfill, but prior to final connection to existing system, conduct concurrent pressure and leakage tests.
- F. Provide equipment required to perform leakage and pressure tests. The meter utilized for testing shall have a low flow registration less than or equal to 0.03 gpm. The pressure gauge utilized for testing shall have a 4-inch dial or larger and gradation of 2 psi increments.
- G. Conduct tests for at least two-hour duration.
- H. No pipeline installation will be approved when pressure varies by more than 5 psi. Water shall be added to the test section to maintain the test pressure. The amount of water used shall be recorded.
- I. Hydrostatic test boundaries shall be each valved section of water line. Each valve shall be subjected to test pressure on at least one side.
- J. Before applying test pressure, properly fill, flush, and expel air from section of piping under test.

- K. Slowly bring piping to test pressure and allow system to stabilize prior to conducting leakage test.
- L. Examine exposed piping, fittings, valves, hydrants, and joints carefully during pressure test. Repair or replace damage or defective pipe, fittings, valves, hydrants, or joints discovered, following pressure test.
- M. At the conclusion of the test, water shall be added to increase the pressure to the start test pressure. The amount of water added shall be recorded.
- N. No pipeline installation will be approved when leakage is greater than that determined by the following formula:

$L = (SD \sqrt{P}) / C$
L = testing allowance, in gallons per hour
S = length of pipe tested, in feet
D = nominal diameter of pipe, in inches
P = average test pressure during hydrostatic test, in psig
C = 148,000
When pipe under test contains sections of various diameters, calculate allowable leakage from sum of computed leakage for each size.

- O. When test of pipe indicates leakage greater than allowed, locate source of leakage, make corrections and retest until leakage is within allowable limits. Correct visible leaks regardless of quantity of leakage.

END OF SECTION

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SECTION 33 1300 - DISINFECTING OF WATER UTILITY DISTRIBUTION

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Disinfection of potable water transmission, distribution and service systems as specified in Section 33 1116.
- B. Disinfection of building domestic water piping specified in Section 22 1005.
- C. Testing and reporting results.

1.2 RELATED REQUIREMENTS

- A. Section 33 1116 - Water Utility Distribution Piping.

1.3 REFERENCE STANDARDS

- A. AWWA B300 - Hypochlorites; American Water Works Association; 2010 (ANSI/AWWA B300).
- B. AWWA B301 - Liquid Chlorine; American Water Works Association; 2010 (ANSI/AWWA B301).
- C. AWWA B302 - Ammonium Sulfate; American Water Works Association; 2010 (ANSI/AWWA B302).
- D. AWWA B303 - Sodium Chlorite; American Water Works Association; 2013.
- E. AWWA C651 - Disinfecting Water Mains; American Water Works Association; 2014 (ANSI/AWWA C651-14).

1.4 SUBMITTALS

- A. See Section 01 3000 - Administrative Requirements for submittal procedures and Section 01 7000 - Execution and Closeout Requirements for submittal requirements.
- B. Test Reports: Indicate results comparative to specified requirements.
- C. Certificate: From authority having jurisdiction indicating approval of water system.
- D. Certificate: Certify that cleanliness of water distribution system meets or exceeds specified requirements.
- E. Disinfection report:
 - 1. Type and form of disinfectant used.
 - 2. Date and time of disinfectant injection start and time of completion.
 - 3. Test locations.
 - 4. Initial and 24 hour disinfectant residuals (quantity in treated water) in ppm for each outlet tested.

5. Date and time of flushing start and completion.
 6. Disinfectant residual after flushing in ppm for each outlet tested.
- F. Bacteriological report:
1. Date issued, project name, and testing laboratory name, address, and telephone number.
 2. Time and date of water sample collection.
 3. Name of person collecting samples.
 4. Test locations.
 5. Initial and 24 hour disinfectant residuals in ppm for each outlet tested.
 6. Coliform bacteria test results for each outlet tested.
 7. Certification that water conforms, or fails to conform, to bacterial standards of authority having jurisdiction, suitable for human consumption.

1.5 QUALITY ASSURANCE

- A. Cleaning, disinfection and testing of water lines shall be the responsibility of the Contractor. Perform Work in accordance with AWWA C651-14.
- B. Water Treatment Firm: Company specializing in disinfecting potable water systems specified in this Section with minimum three years documented experience.
- C. Testing Firm: Company specializing in testing potable water systems, certified by governing authorities of the State in which the Project is located.
- D. Submit bacteriologist's signature and authority associated with testing.

PART 2 PRODUCTS

2.1 DISINFECTION CHEMICALS

- A. Chemicals: AWWA B300, Hypochlorite, AWWA B301, Liquid Chlorine, AWWA B302, Ammonium Sulfate, and AWWA B303, Sodium Chlorite.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Section 01 3000 - Administrative Requirements for verification of existing conditions before starting Work.
- B. Verify that piping system has been cleaned, inspected, and pressure tested.

- C. Schedule disinfecting activity to coordinate with start-up, testing, adjusting and balancing, demonstration procedures, including related systems.

3.2 DISINFECTION

- A. Provide and attach equipment required to perform the Work.
- B. Perform disinfection of water distribution system.
- C. Introduce treatment into piping system.
- D. Maintain disinfectant in system for 24 hours minimum.
- E. Flush, circulate, and clean until required cleanliness is achieved; use municipal domestic water. The new system must be thoroughly flushed at a velocity of not less than 3.0 ft. per second until no trace of dirt or foreign matter is visible. Adequate provisions shall be made for drainage of flushing water. The sterilizing agent used must produce a solution of water and chlorine of not less than 25 mg/L available chlorine throughout the entire new piping system. Prior to flushing, the chlorine residual shall be measured. If it is less than 10 mg/L, the system shall be re-disinfected using 25 mg/L available chlorine in accordance with AWWA standards. After the chlorine solution has remained in the new piping system for at least 24 hours, the lines shall be thoroughly flushed until the normal residual chlorine in the system is measured.
- F. Replace permanent system devices removed for disinfection.

3.3 FIELD QUALITY CONTROL

- A. Perform field inspection and testing in accordance with Section 01 4000.
- B. Disinfection, Flushing, and Sampling:
 - 1. Notify Engineer, Owner, and testing agency 72 hours in advance of test and have witness test.
 - 2. Disinfect pipeline installation in accordance with AWWA C651. Use of liquid chlorine is not permitted.
 - 3. Upon completion of retention period required for disinfection, the treated water shall contain no less than 10 mg/L chlorine through the entire length of the main. Flush pipeline until chlorine concentration in water leaving pipeline is no higher than that generally prevailing in existing system or is acceptable for domestic use.
 - 4. Legally dispose of chlorinated water. When chlorinated discharge may cause damage to environment, apply neutralizing chemical to chlorinated water to neutralize chlorine residual remaining in water.
 - 5. After final flushing and before pipeline is connected to existing system, or placed in service, employ a State Health Department-approved independent testing laboratory to sample, test and certify water quality suitable for human consumption. A minimum of two samples shall be collected from each sampling site for total coliform analysis. The

number of sites depends on the amount of new construction but must include all dead end lines, be representative of the water in the newly constructed mains, and shall be collected a minimum of every 1,200 linear feet. These samples must be collected at least 16 hours apart and must show the water line to be absent of coliform bacteria.

6. If the membrane filter method of analysis is used for the coliform analysis, non-coliform growth must also be reported.
7. The chlorine residual must also be measured and reported.
8. All samples must be analyzed by a State certified laboratory.
9. Results of the bacterial examination shall be forwarded to the Engineer.
10. If laboratory results indicate the presence of coliform bacteria, the samples are unsatisfactory and disinfection shall be repeated until the samples are satisfactory. Cleaning, disinfection, and testing will be the responsibility of the Contractor. Water for these operations will be furnished by the Owner, but the Contractor shall include in the Bid the cost of loading, hauling, and discharging the water.
11. Testing and disinfection of the completed sections shall not relieve the Contractor of his responsibility to repair or replace any cracked or defective pipe. All work necessary to secure a tight line shall be performed at Contractor's expense.

END OF SECTION

SECTION 33 3111 - SANITARY UTILITY SEWERAGE PIPING

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Sanitary sewerage drainage piping, fittings, and accessories.
- B. Underground pipe markers.
- C. Connection of building sanitary drainage system to municipal sewers.
- D. Connection to existing manholes.
- E. Wye branches and tees.
- F. Sanitary laterals.

1.2 RELATED REQUIREMENTS

- A. Section 03 3000 - Cast-in-Place Concrete: Concrete for cleanout base pad construction.
- B. Section 31 2316 - Excavation: Excavating of trenches.
- C. Section 31 2316.13 - Trenching: Excavating, bedding, and backfilling.
- D. Section 31 2323 - Fill: Bedding and backfilling.

1.3 REFERENCE STANDARDS

- A. ASTM International:
 - 1. ASTM C923 - Standard Specification for Resilient Connectors between Reinforced Concrete Manhole Structures, Pipes and Laterals; 2008 (Reapproved 2013).
 - 2. ASTM D2321 - Standard Practice for Underground Installation of Thermoplastic Pipe for Sewers and Other Gravity-Flow Applications; 2014.
 - 3. ASTM D2564 - Standard Specification for Solvent Cements for Poly (Vinyl Chloride) (PVC) Plastic Piping Systems; 2012.ASTM D2729 - Standard Specification for Poly(Vinyl Chloride) (PVC) Sewer Pipe and Fittings; 2011.
 - 4. ASTM D2855 - Standard Practice for Making Solvent-Cemented Joints with Poly(Vinyl Chloride) (PVC) Pipe and Fittings; 1996 (Reapproved 2010).ASTM D3034 - Standard Specification for Type PSM Poly(Vinyl Chloride) (PVC) Sewer Pipe and Fittings; 2014.
 - 5. ASTM D3034 - Standard Specification for Poly(Vinyl Chloride) (PVC) Plastic Pipe, Schedules 40, 80, and 120; 2015.
 - 6. ASTM D3212 - Standard Specification for Joints for Drain and Sewer Plastic Pipes Using Flexible Elastomeric Seals; 2013.

7. ASTM F477 - Standard Specification for Elastomeric Seals (Gaskets) for Joining Plastic Pipe; 2014.
- B. Virginia Department of Health (VDH):
 1. VDH Waterworks Regulations.
- C. Virginia Department of Environmental Quality (VDEQ):
 1. Sewage Collection and Treatment Regulations.
- D. Virginia Department of Transportation (VDOT):
 1. Road and Bridge Standards, 2016.
 2. Road and Bridge Specifications, 2020.

1.4 ADMINISTRATIVE REQUIREMENTS

- A. Section 01 3000 - Administrative Requirements: Requirements for coordination.
- B. Coordination: Coordinate the installation with size, location and installation of service utilities.
- C. Preinstallation Meeting: Conduct a preinstallation meeting one week prior to the start of the work of this section; require attendance by all affected installers.
- D. Sequencing: Ensure that utility connections are achieved in an orderly and expeditious manner.
- E. Work in this Section includes all sanitary sewer work on this project.

1.5 SUBMITTALS

- A. See Section 01 3000 - Administrative Requirements for submittal procedures and Section 01 7000 - Execution and Closeout Requirements for submittal requirements.
- B. Product Data: Provide data indicating pipe, pipe accessories.
- C. Manufacturer's Certificate: Certify that products meet or exceed specified requirements.
- D. Manufacturer's Installation Instructions: Indicate special procedures required to install Products specified.
- E. Field Quality Control Submittals: Document results of field quality control testing.
- F. Project Record Documents:
 1. Record location of pipe runs, connections, cleanouts, and invert elevations.
 2. Identify and describe unexpected variations to subsoil conditions or discovery of uncharted utilities.

1.6 DELIVERY, STORAGE, AND HANDLING

- A. Section 01 6000 - Product Requirements: Requirements for transporting, handling, storing, and protecting products.
- B. Do not place materials on private property without written permission of property owner.
- C. During loading, transporting and unloading, exercise care to prevent damage to materials.
- D. Do not drop pipe or fittings.
- E. Avoid shock or damage to pipe.
- F. Take measures to prevent damage to exterior surface or internal lining of pipe.
- G. Do not stack pipe higher than recommended by pipe manufacturer.
- H. Store gaskets for mechanical and push-on joints in cool, dry location out of direct sunlight and not in contact with petroleum products.
- I. Store polyvinyl chloride and polyethylene materials out of sunlight.

1.7 EXISTING CONDITIONS

- A. Verify field measurements and elevations are as indicated.

1.8 QUALIFICATIONS

- A. Manufacturer: Company specializing in manufacturing Products specified in this Section with minimum three years documented experience.
- B. Installer: Company specializing in performing Work of this Section with minimum 3 years documented experience.

PART 2 PRODUCTS

2.1 SEWER PIPE PIPE AND FITTINGS

- A. Provide products that comply with applicable code(s).
- B. PVC Flexible Joint Plastic Pipe: ASTM D3034, Type PSM, Poly (Vinyl Chloride) (PVC) material; bell and spigot style rubber ring sealed gasket joint.
 - 1. Pipe Class: SDR 35.
 - 2. Minimum Pipe Stiffness: 46 psi.
 - 3. Fittings: PVC conforming to pipe specifications.
 - 4. Joints: ASTM D3212, elastomeric gaskets.
 - 5. Rubber Gaskets: Meet requirements of ASTM F477 or ASTM D1869.

2.2 FLEXIBLE PIPE TO MANHOLE CONNECTION

A. Manufacturers:

1. National Pollution Control Systems, Inc.
2. Press-Seal Gasket Corporation.
3. Interpace Corporation.
4. Substitutions: Equal per Section 01 6000 - Product Requirements.

B. Pipe to manhole connection shall be sealed with a flexible boot, gasket, sleeve, or as detailed on Drawings.

1. When the boot is used, the port shall be cored to the size, shape, surface finish, and location required and not cast in the manhole. The boot shall consist of a rubber gasket, an internal expansion sleeve, and one or more external compression take-up clamps.
2. When gasket is used, the gasket shall be a rubber-pressed wedge gasket cast into the manhole.
3. When sleeve is used, the sleeve shall be a flexible rubber sleeve cast into the manhole complete with stainless steel strap.
4. All field penetrations into manholes shall be cast-in-place, cored, or saw cut to a sufficient size to accommodate the seals referenced above.

C. Materials:

1. Gaskets, Expansion Sleeves, and Connectors: Natural or synthetic rubber meeting ASTM C923.
2. Clamps and Hardware: Series 300 non-magnetic stainless steel.

2.3 UNDERGROUND PIPE MARKERS

- ### **A. Plastic Ribbon Tape: Metallic core, brightly colored green continuously printed with "GRAVITY SEWER" in large letters, minimum 6 inches wide by 4 mils thick.**

2.4 BEDDING AND COVER MATERIALS

- ### **A. Pipe Bedding Material: As specified in Section 31 2323.**
- ### **B. Pipe Cover Material: As specified in Section 31 2323.**

PART 3 EXECUTION

3.1 GENERAL

- ### **A. Perform work in accordance with applicable code(s).**

3.2 EXAMINATION

- A. Section 01 7000 - Execution and Closeout Requirements: Verification of existing conditions before starting Work.
- B. Verify existing sanitary sewer utility main size, location, and inverts are as indicated on Drawings.

3.3 EXCAVATION AND BEDDING

- A. Excavate pipe trench in accordance with Section 31 2316.13.
- B. Excavate to lines and grades shown on Drawings or required to accommodate installation of encasement.
- C. Dewater excavations to maintain dry conditions and preserve final grades at bottom of excavation.
- D. Provide sheeting and shoring in accordance with Section 31 2316.13.
- E. Place bedding material and backfill trench per Section 31 2316.13.

3.4 INSTALLATION - PIPE

- A. Install in accordance with manufactures instructions and as indicated on Drawings.
- B. Install plastic pipe, fittings, and accessories in accordance with ASTM D2321.
- C. Install DIP, fittings, and accessories in accordance with applicable portions of AWWA C600.
- D. Seal joints watertight.
- E. Lay pipe to slope gradients indicated on Drawings. Begin at downstream end and progress upstream
- F. Ensure entire pipe is supported by bedding.
- G. Assemble and handle pipe in accordance with manufacturer's instructions except as modified on the Drawings or by Engineer.
- H. Keep pipe and fittings clean until work is completed and accepted by Engineer. Cap open ends during periods of work stoppage.
- I. Lay bell and spigot pipe with bells upstream.
- J. Pipe Joint. Preparatory to making pipe joints on gravity sewer lines, clean and dry all surfaces of joint pipe and jointing material. Use lubricants, primers, adhesives, and similar materials as recommended by the manufacturers. Place, fit, join, and adjust the jointing materials or factory fabricated joints as recommended by the manufacturer to obtain the degree of watertightness required. As soon as possible after the joint is made, place sufficient backfill material along each side of the pipe to resist forces that might tend to move the pipe off line and grade.
 - 1. Place backfill over the pipe immediately after the pipe has been laid.

K. Service lateral connections and reconnection of existing connections to main sewers shall be made by using a saddle wye. All connections to sewers shall be made to prevent structural damage and infiltration to these facilities.

L. Join Mechanical Joint Pipe as Follows:

1. Thoroughly clean inside of the bell and 8 inches of the outside of the spigot end of the joining pipe to remove oil, grit, excess coating, and other foreign matter from the joint. Paint the bell and the spigot with soap solution (half cup granulated soap dissolved in 1 gallon water). Slip cast-iron gland on spigot end with lip extension of gland toward end of pipe. Paint rubber gasket with or dip into the soap solution and place on the spigot end with thick edge toward the gland.
2. Push the spigot end forward to seat in the bell. Then carefully press the gasket into the bell so that it is located evenly around the joint. The gland is moved into position, bolts inserted, and nuts screwed up finger tight. Then tighten all nuts to torque listed below.

<u>Bolt Size - Inches</u>	<u>Torque Ft. - Lbs.</u>
5/8	40 - 60
3/4	60 - 90
1	70 - 100
1-1/4	90 - 120

3. Tighten nuts on alternate sides of the glands until pressure on the gland is equally distributed.
4. Permissible deflection of mechanical joint pipe in force mains shall not be greater than listed in AWWA C600.

M. Join Push-On Joint Pipe as Follows:

1. Thoroughly clean inside of the bell and 8 inches of the outside of the spigot end of the joining pipe to remove oil, grit, excess coating, and other foreign matter. Flex rubber gasket and insert in the gasket recess of the bell socket. Apply a thin film of gasket lubricant supplied by pipe manufacturer to either the gasket or the spigot end of the joining pipe.
2. Start spigot end of pipe into socket with care. The joint shall then be completed by forcing the plain end to the bottom of the socket with a forked tool or jack type device. Field-cut pipe shall have the end filed to match the manufactured spigot end.
3. Permissible deflection of push-on joint pipe in force mains shall not be greater than listed in AWWA C600.

N. Join polyvinyl chloride (PVC) pipe as recommended by the manufacturer using rubber ring gaskets in bell ends.

O. Encase sewer pipe lines crossing under roads in a larger pipe or conduit called a casing pipe. The casing pipe shall be of the diameter and wall thickness as indicated in the chart below. Joining of steel casing pipe shall meet requirements of AWWA C206 "Standard for Field

Welding of Steel Water Pipe Joints". Install casing pipe by open cutting, jacking or boring.

1. The installation shall meet requirements of the Highway Department for installation under roadways. Brick up casing pipe ends to protect against foreign matter, but do not tightly seal. Prior to beginning Work, notify the Highway Department.

P. Pipe Chart for Road Crossings:

CARRIER PIPE	MINIMUM CASING PIPE INSIDE DIAMETER	MINIMUM THICKNESS (D.O.T.)	MINIMUM THICKNESS (R.R.)
4-Inch PVC	12"	0.50"	N/A
4-Inch Ductile Iron	12"	0.50"	0.188"
6-Inch PVC	16"	0.50"	N/A
6-Inch Ductile Iron	16"	0.50"	0.188"
8-Inch PVC	20"	0.50"	N/A
8-Inch Ductile Iron	20"	0.50"	0.188"
10-Inch PVC	24"	0.50"	N/A
10-Inch Ductile Iron	24"	0.50"	0.188"
12-Inch PVC	24"	0.50"	N/A
12-Inch Ductile Iron	24"	0.50"	0.250"
16-Inch Ductile Iron	30"	0.50"	0.281"
18-Inch Ductile Iron	32"	0.50"	0.312"
20-Inch Ductile Iron	36"	0.50"	0.344"
24-Inch Ductile Iron	42"	0.50"	0.375"
30-Inch Ductile Iron	48"	0.50"	0.469"
36-Inch Ductile Iron	54"	0.50"	0.781"

- Q. Skids shall be of structural steel with anti corrosion finish and shall be spaced at 9-foot maximum intervals. Skids shall be bolted around carrier pipe leaving a minimum of 2-inch clearance between skid and casing pipe. Lubrication shall be non-toxic and shall not support growth of bacteria. Skids shall be spider supports and spacers, or approved equal.
- R. Connect pipe to existing sewer system as indicated on Drawings at existing manhole or using doghouse manhole connectionh.
- S. Place haunching material, rod, and tamp per Section 31 2316.13 to eliminate voids.
- T. Install underground marking tape continuously 18 inches above pipeline.
- U. Parallel Installation:
 1. Normal Conditions: Sewer lines and manholes shall be constructed at least 10 feet horizontally from a water line whenever possible. The distance shall be measured edge to edge.
 2. Unusual Conditions: When local conditions prevent a horizontal separation of at least 10 feet, the water line may be laid closer to a sewer or sewer manhole provided that:

- a. The bottom of the water line is at least 18 inches above the top of the sewer.
- b. Where this vertical separation cannot be obtained, the sewer shall be constructed of AWWA-approved water pipe pressure-tested in place to 50 psi without leakage prior to backfilling. The sewer manhole shall be of watertight construction and tested in place.

V. Crossing:

- 1. Normal Conditions: Sewers crossing under water lines shall be laid to provide a separation of at least 18 inches between the bottom of the water line and the top of the sewer whenever possible.
- 2. Unusual Conditions: When local conditions prevent a vertical separation described in the paragraph above, the following construction shall be used:
 - a. Sewers passing over or under water lines shall be constructed as described in Parallel Installation, Unusual Conditions above.
 - b. Sewer passing over water lines shall be laid to provide:
 - 1) Vertical separation of at least 18 inches between bottom of sewer and top of water line.
 - 2) Adequate structural supports for the sewers to prevent excessive deflection of the joints and settling on and breaking water line.
 - 3) Maximum separation of water and sewer line joints.

3.5 CONNECTION TO EXISTING MANHOLE

- A. Core drill or saw cut existing manhole to clean opening. Use of pneumatic hammers, chipping guns, and sledge hammers is not permitted.
- B. Install flexible pipe to manhole connector and seal with non-shrink concrete grout.
- C. Concrete encase new sewer pipe minimum of 24 inches to nearest pipe joint. Use epoxy binder between new and existing concrete.
- D. Prevent construction debris from entering existing sewer line when making connection.

3.6 INSTALLATION - WYE BRANCHES AND TEES

- A. Install wye branches or pipe tees at locations indicated on Drawings concurrent with pipe laying operations. Use standard fittings of same material and joint type as sewer main.
- B. Maintain minimum 5 feet separation distance between wye connection and manhole.
- C. Use saddle wye or tee with stainless steel clamps for taps into existing piping. Mount saddles with solvent cement or gasket and secure with metal bands. Layout holes with template and cut holes with mechanical cutter.

3.7 INSTALLATION - SANITARY LATERALS

- A. Construct laterals from wye branch to terminal point at right-of-way or as indicated on Drawings.
- B. Where depth of main pipeline warrants, construct riser type laterals from wye branch.
- C. Maintain 3-foot minimum depth of cover over pipe.
- D. Maintain minimum 5-foot separation distance between laterals.
- E. Install watertight plug, braced to withstand pipeline test pressure thrust, at termination of lateral. Install temporary marker stake extending from end of lateral to 24 inches above finished grade. Paint top 6 inches of stake with fluorescent orange paint.

3.8 BACKFILLING

- A. Backfill around sides and to top of pipe in accordance with Section 31 2316.13.
- B. Maintain optimum moisture content of backfill material to attain required compaction density.

3.9 FIELD QUALITY CONTROL

- A. Section 01 4000 - Quality Requirements: Field inspecting, testing, adjusting, and balancing.
- B. Request inspection prior to and immediately after placing bedding.
- C. Perform test on sanitary sewage system in accordance with Section 33 0132 and local code.
- D. Compaction Testing: In accordance with Section 31 2316.13.
- E. When tests indicate Work does not meet specified requirements, remove Work, replace, and retest.

3.10 PROTECTION OF FINISHED WORK

- A. Section 01 7000 - Execution and Closeout Requirements: Requirements for protecting finished Work.
- B. Protect pipe and aggregate cover from damage or displacement until backfilling operation is in progress.
- C. Place backfill over the pipe immediately after the pipe has been laid.

END OF SECTION

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SECTION 33 4111 - STORM UTILITY DRAINAGE PIPING

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Storm drainage piping, fittings, and accessories.

1.2 RELATED REQUIREMENTS

- A. Section 31 2316 - Excavation: Excavating of trenches.
- B. Section 31 2316.13 - Trenching: Excavating, bedding, and backfilling.
- C. Section 31 2323 - Fill: Bedding and backfilling.

1.3 REFERENCE STANDARDS

- A. VDOT Road and Bridge Specifications - Virginia Department of Transportation Road and Bridge Specifications 2016.
- B. AASHTO M 252 - Standard Specification for Corrugated Polyethylene Drainage Pipe; 2009.
- C. AASHTO M 294 - Standard Specification for Corrugated Polyethylene Pipe, 300- to 1500 MM (12- to 60- in.) Diameter; 2013.
- D. ASTM D2321 - Standard Practice for Underground Installation of Thermoplastic Pipe for Sewers and Other Gravity-Flow Applications; 2014.
- E. ASTM D3350 - Standard Specification for Polyethylene Plastics Pipe and Fittings Material; 2014.

1.4 ADMINISTRATIVE REQUIREMENTS

- A. See Section 01 7000 - Execution and Closeout Requirements, for coordination and project conditions.

1.5 SUBMITTALS

- A. See Section 01 3000 - Administrative Requirements for submittal procedures and Section 01 7000 - Execution and Closeout Requirements for submittal requirements.
- B. Product Data: Provide data indicating pipe, pipe accessories.
- C. Manufacturer's Certificate: Certify that products meet or exceed specified requirements.
- D. Manufacturer's Installation Instructions: Indicate special procedures required to install Products specified.
- E. Field Quality Control Submittals: Document results of field quality control testing.

1.6 DELIVERY, STORAGE, AND HANDLING

- A. See Section 01 6000 - Product Requirements for requirements for transporting, handling, storing, and protecting products.
- B. Block individual and stockpiled pipe lengths to prevent moving.
- C. Do not place pipe or pipe materials on private property or in areas obstructing pedestrian or vehicle traffic.
- D. Do not place pipe flat on ground. Cradle to prevent point stress.

PART 2 PRODUCTS

2.1 SEWER PIPE MATERIALS

- A. Plastic Pipe: ASTM D3350, High Density Polyethylene (HDPE) corrugated wall pipe with integrally formed smooth liner; inside nominal diameter of 4 inch, meeting the requirements of AASHTO M 252, Type S, for diameters between 3 inches and 10 inches and AASHTO M 294, Type S, for diameters between 12 inches and 60 inches, soil-tight, bell and spigot joints with rubber gaskets, with pipe and fittings manufactured from virgin PE compounds with cell classification 3254420C.

2.2 PIPE ACCESSORIES

- A. Fittings: Same material as pipe molded or formed to suit pipe size and end design, in required tee, bends, elbows, cleanouts, reducers, traps and other configurations required.

2.3 BEDDING AND COVER MATERIALS

- A. General: Conform to Section 31 2316.13 - Trenching and Section 31 2323 - Fill for bedding and backfill around and on top of pipe.
- B. Bedding for Flexible Pipe (HDPE and CMP): Aggregate fill; shall meet VDOT Road and Bridge Specifications requirements for No. 25 or No. 26 crusher run aggregate or No. 57 coarse aggregate.

PART 3 EXECUTION

3.1 EXAMINATION

- A. See Section 01 7000 - Execution and Closeout Requirements for verification of existing conditions before starting work.
- B. Verify trench cut is ready to receive work and excavations, dimensions, and elevations are as indicated on Drawings.

3.2 TRENCHING

- A. See Section 31 2316.13 - Trenching for additional requirements.
- B. Backfill around sides and to top of pipe with cover fill, tamp in place and compact, then complete backfilling.

3.3 INSTALLATION - PIPE

- A. Verify that trench cut is ready to receive work and excavations, dimensions, and elevations are as indicated on layout drawings.
- B. Install pipe, fittings, and accessories in accordance with manufacturer's instructions and as indicated on Drawings. Seal watertight.
 - 1. Plastic Pipe: Also comply with ASTM D2321.
- C. Lay pipe to slope gradients noted on layout drawings; with maximum variation from true slope of 1/8 inch in 10 feet. Begin at downstream end and progress upstream.
- D. Connect to building storm drainage system, foundation drainage system, and utility/municipal sewer system.
- E. Seal joints watertight.
- F. Keep pipe and fittings clean until Work is completed and accepted by Engineer. Cap open ends during period of work stoppage.
- G. Lay bell and spigot pipe with bells upstream.

3.4 FIELD QUALITY CONTROL

- A. Perform field inspection and testing in accordance with Section 01 4000.
- B. Request inspection prior to and immediately after placing aggregate cover over pipe.
- C. When tests indicate work does not meet specified requirements, remove work, replace and retest.

3.5 PROTECTION

- A. Protect pipe and aggregate cover from damage or displacement until backfilling operation is in progress.
 - 1. Take care not to damage or displace installed pipe and joints during construction of pipe supports, backfilling, testing, and other operations.
 - 2. Repair or replace pipe that is damaged or displaced from construction operations.

END OF SECTION