

**PROJECT MANUAL**

**TOWN OF GRANITE QUARRY**

**TOWN HALL**

**FAÇADE IMPROVEMENTS**

**GRANITE QUARRY, NC**

**JANUARY 2020**



**Ramsay Burgin Smith Architects**

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**SET #** \_\_\_\_\_



## INVITATION TO BID

1. a. Sealed proposals will be received by **the Town of Granite Quarry** in the Granite Quarry Municipal Building Meeting Room, located at 143 N. Salisbury Avenue, Granite Quarry, North Carolina, up to **2:00 PM on Thursday, March 5<sup>th</sup>, 2020** and immediately thereafter publicly opened and read for the furnishing of labor, materials and equipment entering into the construction of the Granite Quarry Town Hall Façade Improvements, Granite Quarry, North Carolina, including all required work described on the plans and specifications for general work (which includes electrical work).
- b. The Project consists of removing the cladding of the existing façade of the front canopy of the Granite Quarry's Town Hall/Municipal Building and preparing a new façade substrate for the installation of Aluminum Composite Metal (ACM) panels as indicated by the new design on the drawings. New aluminum storefront windows will be cut and installed in the upper level over the canopy in masonry walls. New exterior signage lettering will be installed in the work. New exterior lighting will be installed in the work.

The Owner will be continuously occupying the building while construction improvements are occurring at the front door entry canopy. Protective passage scaffolding will be required to protect the public and staff entering and exiting the building.

The Town of Granite Quarry will be providing landscaping of front planter beds and parking lot asphalt paving topping during the time of the construction.

**General Construction work** includes major subcontractors:

- Demolition work
- Masonry Work
- Roofing and parapet wall flashing
- Metal Stud Framing and Plywood Sheathing
- ACM cladding work
- Electrical work.

- c. Proposals shall be received for a **Single Prime** contract for General Construction, including Electrical work.
2. a. After Thursday, February 13<sup>th</sup>, 2020, complete plans, specifications, and contract documents will be available for inspection on our website at [www.rbsarch.com](http://www.rbsarch.com) or in the following offices:  
  
RAMSAY BURGIN SMITH ARCHITECTS, INC. - 225 N. Main Street, Suite 501, Salisbury, NC  
Town of Granite Quarry Town Hall/Municipal Bldg, 143 N. Salisbury Street, Granite Quarry, NC  
And on the RBSA web site [www.rbsarch.com](http://www.rbsarch.com)
  - b. Procedure for Obtaining Bidding Documents (General Contractors): Contact the Architect, Ramsay Burgin Smith Architects, Inc, 225 North Main Street, Suite 501, Salisbury, NC 28144. Phone: 704-633-3121 to **register for Bidding** and to receive any addenda to follow.

Plans and Specifications may be viewed (and down-loaded from) without charge on the architect's website [www.rbsarch.com](http://www.rbsarch.com) by clicking "**Bidding Projects**".

**General Contractors are responsible for downloading and printing of all Bidding Documents.**

Contractors shall access bid documents from RBSA Website and order printing from ACCENT IMAGING of Hickory, NC at 828-322-5050 or printer of their choice.

All printing costs shall be paid for by the General Contractor.

- c. Subcontractors and material suppliers may purchase single sheets of plans as they so choose. Subcontractors and material suppliers are invited to visit RBSA Website ([www.rbsarch.com](http://www.rbsarch.com)) to

ascertain the quantity and specific sheets desired. The Architect will assume no responsibility in the selection of required drawings or specification sheets.

3. **A Pre-Bid Conference** will be held **on site** at the Granite Quarry Town Hall/Municipal Building on **Wednesday February 26th, 2020 beginning at 11:00 am** to allow contractors the opportunity to ask questions and/or clarify pertinent issues. **Attendance is not mandatory but strongly recommended** for project clarity.
4. All Contractors and Subcontractors must have all required construction licenses under North Carolina State laws governing their respective trades.
5. Each proposal must be accompanied by a certified check drawn on a bank or trust company insured by the Federal Deposit Insurance Corporation in an amount equal to not less than 5% of the proposal. In lieu thereof, a bidder may offer a bid bond of 5% of the bid, executed by a surety company licensed under the laws of North Carolina to execute such bonds, conditioned that the surety will, upon demand forthwith make payment to the Obligee upon said bond, if the bidder fails to execute the contract in accordance with the bid bond. Upon failure to forthwith make payment, the surety will pay to the Obligee an amount equal to the amount of said bond. Said deposit shall be retained by the Owner as liquidated damages in the event of failure of the successful bidder to execute the contract within ten days after the award, or to give satisfactory surety as required by law. (General Statutes of North Carolina, C0143, Article 85 - 129).
6. **Bonds:** Separate Performance and Payment Bond will be required each for one hundred percent (100%) of the contract price.
7. Payments will be made at ninety five percent (95%) of approved monthly applications until a maximum of two and one half percent (2.5%) retainage is reached per N.C.G.S. 143-134.1 (b1)-through (e). Final Certificates and payment will be issued upon acceptance of the work as complete.
8. No bid may be withdrawn after time set for receiving bids for a period of **sixty (60) days**.
9. **Low bidders** shall be required to submit to the Architect a *Contractor's Qualification Statement (AIA Document A305)* prior to award of bid. This information shall be considered privileged and confidential. Owner reserves the right to award or not to award contracts based on qualifications.
10. The Town of Granite Quarry maintains the goal of ten percent (10%) minority participation in all contracts. All bidders are expected to make and document a good faith effort to achieve this goal. **All the MBE documents are at the front of this project manual.**

**In addition:** See requirements for **Iran Divestment Act Certification** and **E-Verify Affidavit**.

11. The Owner reserves the right to waive irregularities and to reject any or all proposals.

RAMSAY BURGIN SMITH ARCHITECTS, INC.  
225 North Main Street, Suite 501  
Salisbury, North Carolina 28144

for

Town of Granite Quarry  
Mr. Larry Smith, Town Manager

January 2020



## INSTRUCTIONS TO BIDDERS

### SECTION 1. SITE CONDITIONS:

Bidders shall inform themselves fully of site conditions relating to construction and labor as well as other pertinent conditions before submitting a proposal.

### SECTION 2. EXAMINATION OF PLANS, SPECIFICATIONS AND CONTRACT DOCUMENTS:

Should a bidder find discrepancies in or omissions from the plans, specifications, and/or contract documents, or should he be in doubt as to their meaning, he should at once notify the Architect who will send written instructions to all bidders. Neither Owner nor Architect will be responsible for any oral instructions.

Bidders must verify that they have received all drawings and specification by comparing their drawing sheets and specification sections with the projects drawing index and specification index. Neither Owner or Architect will be responsible for any claim of missing drawings of specifications listed on the indexes.

Every request for such interpretation or clarification shall be in writing addressed to the Architect, RAMSAY BURGIN SMITH ARCHITECTS, INC., 225 North Main Street, Suite 501, Salisbury, North Carolina 28144. **To be given consideration, the request must be received at least five (5) days prior to the bid date of the project. The interpretation and/or supplementary information will be mailed (AND/OR Emailed) to all prospective bidders generally not later than three (3) days prior to the date fixed for the receipt of bids.**

Bulletins or Addendum issued and received during the bidding period become a part of the contract documents and must be acknowledged on the Form of Proposal by all bidders. Addendum will posted on the architect's website [www.rbsarch.com](http://www.rbsarch.com).

### SECTION 3. PROPOSALS:

Each bid must be submitted on the prescribed form. All blank spaces must be filled in with ink or typewritten in both words and figures.

Each bid must be submitted in a sealed envelope bearing on the outside the name of the bidder, listing their address and license number, and stating that the proposal is for General Construction, including Plumbing, Mechanical, and Electrical work. Address proposals to the Owner, in care of the Architect, at the place set for opening of bids. If forwarded by mail (mailed to the Owner at the bid site address), the sealed envelope containing the bid must be enclosed in another envelope addressed as specified in the bid form and must be received prior to the closing time for bids. Proposals not received by the Architect prior to the closing of bids, no matter what the post mark date, shall be rejected.

### SECTION 4. PROCEDURE TO FOLLOW IN EXECUTING CONTRACT DOCUMENTS:

The Form of Proposal on which all bids must be submitted is inserted herewith. Duplicate copies may be made by the Contractor for recording his bid and for his records. The current AIA contract form will be used for Owner-Contractor agreement. Invoices will be presented on appropriate AIA Form G702. See Article 24 of General Conditions.

Signatures: Each Contractor shall execute all copies of the Form of Proposal, Bid Bond, Contract and Performance Bond.

If the contract documents are executed by a sole owner, that fact shall be evidenced by the word "Owner" appearing after the name of the person executing them.

If the contract documents are executed by a partnership, that fact shall be evidenced by the words "Co-Partner" appearing after the name of the partner executing them.

If the contract documents are executed on the part of a corporation, they shall be executed by either the President or the Vice President and attested by the Secretary in either case, and the title of the office of such persons shall appear after their signatures. The seal of the corporation shall be impressed on each copy of the contract documents.

Signatures shall be properly witnessed.

#### Performance Bond:

Where the Performance Bond is executed by an Attorney-in-fact, there shall be attached to each copy of the Performance Bond a certified copy of Power of Attorney properly executed and dated.

Each copy of the Performance Bond shall be counter-signed by an authorized individual agent of the Bonding Company licensed to do business in North Carolina (see Section 58-44 General Statutes of North Carolina). The title "Licensed Resident Agent" shall appear after the signature.

The seal of the Bonding Company shall be impressed on each copy of the Performance Bond. The Contractor's signature(s) on the Performance Bond shall correspond with that on the Contract.

#### Form of Proposal:

Single Prime proposals will be received for general construction, including electrical work. See proposal form bound herein.

Owner reserves the right to waive irregularities and to reject any or all proposals.

Bids must be based on these specifications, addendum, bulletins and working drawings (as listed in Division 1), dated JANUARY 2020 for Granite Quarry Town Hall Façade Improvements.

The Town of Granite Quarry, NC in compliance with the NC Senate Bill 914 has a goal of soliciting 10% participation in the project from Minority Business Enterprises (MBE). **See bidding requirements attached in the front of this project manual.**

**Low Bidder's shall be required to submit a completed "Contractor's Qualification Statement" AIA Form A305 prior to award of contract.**

#### Approval of Documents:

Upon completion of the execution of the contract documents, the documents, together with insurance certificates and other pertinent appendages, shall be returned to the Architect for checking and forwarding to the Owner. Following approval by the Owner, documents will be forwarded to the Architect for distribution.

#### SECTION 5. CONSTRUCTION ADMINISTRATION:

Though this job will be regularly and carefully administered by the Architect, or his representative, and though every reasonable effort will be made to protect the best interest of the Owner, and to assist the Contractor in the interpretation of the contract documents, this project does not include the services of a full-time clerk of the works. The desirability, frequency and timing of the Architect's visits to the site will be decided by the Architect.

END OF INSTRUCTIONS TO BIDDERS

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**FORM OF PROPOSAL**  
**GRANITE QUARRY TOWN HALL**  
**Façade Improvements**  
**Granite Quarry, NC**

Contractor Name: \_\_\_\_\_

Submitted herewith is my/our proposal for the **Granite Quarry Town Hall – Façade Improvements Project.**

**SECTION 1. PRELIMINARY:**

The undersigned, as bidder, hereby declares that the only person(s) interested in this proposal as principal(s) is/are named herein; that no other person than herein mentioned has any interest in this proposal or in the contract to be entered into; that this proposal is made without connection with any other person, company or parties making a bid or proposal; and that it is in all respects fair and in good faith without collusion or fraud.

The undersigned bidder further declares that he has examined the site of the work and informed himself fully in regard to all conditions pertaining to the place where the work is to be done; that he has examined the specifications for the work and the contract documents relative thereto, and has read all special provisions furnished prior to the opening of bids; and that he has satisfied himself relative to the work to be performed.

If this proposal is accepted, the undersigned bidder proposes and agrees to contract with **the Town of Granite Quarry, NC** in the form of contract specified, to furnish all necessary materials, equipment, machinery, tools, apparatus, means of transportation and labor necessary to complete the construction in full and complete accord with the plans, specifications and contract documents and to the full and complete satisfaction of the Architect and Owner with a definite understanding that no money will be allowed for extra work except as set forth in the General Conditions and contract documents for the sum of:

**Single Prime Contract:**

**BASE BID:** \_\_\_\_\_ **DOLLARS (\$ \_\_\_\_\_)**  
**(including allowances specified in Section 01020)**

LIST THE FOLLOWING MAJOR SUBCONTRACTORS PART OF BID:

Electrical: \_\_\_\_\_

Masonry: \_\_\_\_\_

ACM Panels: \_\_\_\_\_

Metal Stud Framing: \_\_\_\_\_

Storefront: \_\_\_\_\_



**SECTION 2. COMPLETION OF WORK:**

If the undersigned bidder is notified of the acceptance of this proposal, he agrees to execute a contract for the above stated compensation in the form of the Standard Agreement of the American Institute of Architects and to commence work within ten (10) days after signing of the contract. The undersigned bidder proposes to complete the construction and have the work ready for Final Inspection **on or before the schedule listed below** from date of "commencement of work".

**Construction Duration - 4 Months.**

The undersigned further agrees that in the case of failure on his part to execute the said contract and required bonding within ten (10) consecutive calendar days after written notice of award of the contract has been given, the check, cash, or bid bond accompanying this bid shall be paid into the funds of the Owner for this project as liquidated damages for such failure.

**SECTION 3. ADDENDA/BULLETINS:**

The undersigned bidder acknowledges receipt of the following Addenda and/or Bulletins:

Addendum No. \_\_\_\_\_ Dated \_\_\_\_\_

Addendum No. \_\_\_\_\_ Dated \_\_\_\_\_

Addendum No. \_\_\_\_\_ Dated \_\_\_\_\_

Addendum No. \_\_\_\_\_ Dated \_\_\_\_\_

\_\_\_\_\_  
WITNESS

\_\_\_\_\_  
SIGNATURE AND TITLE

\_\_\_\_\_  
FIRM NAME

\_\_\_\_\_  
ADDRESS

\_\_\_\_\_  
ADDRESS

\_\_\_\_\_  
LICENSE NUMBER

\_\_\_\_\_  
DATE

(seal)





## **GUIDELINES FOR RECRUITMENT AND SELECTION OF MINORITY BUSINESSES FOR PARTICIPATION IN TOWN OF GRANITE QUARRY CONSTRUCTION CONTRACTS**

In accordance with G.S. §143-128.2, these Guidelines establish goals for minority participation in single-prime bidding, separate-prime bidding, construction manager at risk, and alternative contracting methods on County construction projects in the amount of \$300,000 or more. The **Town of Granite Quarry** has established a verifiable goal of 10% for participation by minority businesses in building construction contracts.

### **SECTION A: INTENT**

It is the intent of these Guidelines that the Town of Granite Quarry, as awarding authority for construction projects, and the contractors and subcontractors performing the construction contracts awarded, shall cooperate and in good faith do all things legal, proper and reasonable to achieve the goal of ten percent (10%) for participation by minority businesses in each construction project as mandated by G.S. §143-128.2. Nothing in these Guidelines shall be construed to require contractors or awarding authorities to award contracts or subcontracts to or to make purchases of materials or equipment from minority-business contractors or minority-business subcontractors who do not submit the lowest responsible, responsive bid or bids.

### **SECTION B: DEFINITIONS**

1. Minority - a person who is a citizen or lawful permanent resident of the United States and who is:
  - a. Black, that is, a person having origins in any of the black racial groups in Africa;
  - b. Hispanic, that is, a person of Spanish or Portuguese culture with origins in Mexico, South or Central America, or the Caribbean Islands, regardless of race;
  - c. Asian American, that is, a person having origins in any of the original peoples of the Far East, Southeast Asia and Asia, the Indian subcontinent, the Pacific Islands;
  - d. American Indian, that is, a person having origins in any of the original peoples of North America; or
  - e. Female
2. Minority Business - means a business:
  - a. In which at least fifty-one percent (51%) is owned by one or more minority persons, or in the case of a corporation, in which at least fifty-one percent (51%) of the stock is owned by one or more minority persons or socially and economically disadvantaged individuals; and
  - b. Of which the management and daily business operations are controlled by one or more of the minority persons or socially and economically disadvantaged individuals who own it.
3. Socially and economically disadvantaged individual - means the same as defined in 15 U.S.C. 637. "Socially disadvantaged individuals are those who have been subjected to racial or ethnic prejudice or cultural bias because of their identity as a member of a group without regard to their individual qualities." "Economically disadvantaged individuals are those socially disadvantaged individuals whose ability to compete in the free enterprise system has been impaired due to

diminished capital and credit opportunities as compared to others in the same business area who are not socially disadvantaged.”

4. Public Entity - means the Owner and all public subdivisions and local governmental units.
5. Owner - The **Town of Granite Quarry**.
6. Designer - Any person, firm, partnership, or corporation, which has contracted with the Owner to perform architectural or engineering work.
7. Bidder - Any person, firm, partnership, corporation, association, or joint venture seeking to be awarded a public contract or subcontract.
8. Contract - A mutually binding legal relationship or any modification thereof obligating the seller to furnish equipment, materials or services, including construction, and obligating the buyer to pay for them.
9. Contractor - Any person, firm, partnership, corporation, association, or joint venture which has contracted with the Owner to perform construction work or repair.
10. Subcontractor - A firm under contract with the prime contractor or construction manager at risk for supplying materials or labor and materials and/or installation. The subcontractor may or may not provide materials in his subcontract.

### **SECTION C: RESPONSIBILITIES**

1. Office for Historically Underutilized Businesses, Department of Administration (hereinafter referred to as HUB Office).

The HUB Office has established a program which allows interested persons or businesses qualifying as a minority business under G.S. §143-128.2 to obtain certification in the State of North Carolina procurement system. The information provided by the minority businesses will be used by the HUB Office to:

- a. Identify those areas of work for which there are minority businesses, as requested.
- b. Make available to interested parties a list of prospective minority business contractors and subcontractors.
- c. Assist in the determination of technical assistance needed by minority business contractors.

In addition to being responsible for the certification/verification of minority businesses that want to participate in a government construction program, the HUB Office will:

- a. Maintain a current list of minority businesses. The list shall include the areas of work in which each minority business is interested.
- b. Inform minority businesses on how to identify and obtain contracting and subcontracting opportunities through the State Construction Office and other public entities.
- c. Inform minority businesses of the contracting and subcontracting process for public

- construction building projects.
- d. Work with the North Carolina trade and professional organizations to improve the ability of minority businesses to compete in government construction projects.
- e. The HUB Office also oversees the minority business program by:
  - (1) Monitoring compliance with the program requirements.
  - (2) Assisting in the implementation of training and technical assistance programs.
  - (3) Identifying and implementing outreach efforts to increase the utilization of minority businesses.
  - (4) Reporting the results of minority business utilization to the Secretary of the Department of Administration, the Governor, and the General Assembly.

2. Owner

The Owner shall do the following:

- a. Develop and implement a minority business participation outreach plan to identify minority businesses that can perform public building projects and to implement outreach efforts to encourage minority business participation in these projects to include education, recruitment, and interaction between minority businesses and nonminority businesses.
- b. Attend the scheduled prebid conference.
- c. At least 10 days prior to the scheduled day of bid opening, notify minority businesses that have requested notices from the public entity for public construction or repair work and minority businesses that otherwise indicated to the Office of Historically Underutilized Businesses an interest in the type of work being bid or the potential contracting opportunities listed in the proposal. The notification shall include the following:
  - (1) A description of the work for which the bid is being solicited.
  - (2) The date, time, and location where bids are to be submitted.
  - (3) The name of the individual within the public entity who will be available to answer questions about the project.
  - (4) Where bid documents may be reviewed.
  - (5) Any special requirements that may exist.
- d. Utilize other media, as appropriate, likely to inform potential minority businesses of the bid being sought.

3. Designer

Under the single-prime bidding, separate prime bidding, construction manager at risk, or alternative contracting method, the Designer will:

- a. Attend the scheduled prebid conference to assist in explaining minority business requirements to the prospective bidders.
- b. Assist the Owner to identify and notify prospective minority business prime and subcontractors of potential contracting opportunities.
- c. Maintain documentation of any contacts, correspondence, or conversation with minority business firms made in an attempt to meet the goals.

- d. Review jointly with the Owner, all requirements of G.S. §143-128.2(c) and G.S. § 143-128-2(f) - (i.e. bidders' proposals for identification of the minority businesses that will be utilized with corresponding total dollar value of the bid and affidavit listing Good Faith Efforts, or affidavit of self-performance of work, if the contractor will perform work under contract by its own workforce) - prior to recommendation of award.
  - e. During construction phase of the project, review "MBE Documentation for Contract Payment" - (Appendix E) for compliance with minority business utilization commitments. Submit Appendix E form with monthly pay applications to the Owner.
  - f. Make documentation showing evidence of implementation of Designer's responsibilities available for review by the Owner and State officials upon request.
4. Prime Contractor(s), CM at Risk, and Its First-Tier Subcontractors  
Under the single-prime bidding, the separate-prime bidding, construction manager at risk and alternative contracting methods, contractor(s) will:
- a. Attend the scheduled prebid conference.
  - b. Identify or determine those work areas of a subcontract where minority businesses may have an interest in performing subcontract work.
  - c. At least ten (10) days prior to the scheduled day of bid opening, notify minority businesses of potential subcontracting opportunities listed in the proposal. The notification will include the following:
    - (1) A description of the work for which the subbid is being solicited.
    - (2) The date, time and location where subbids are to be submitted.
    - (3) The name of the individual within the company who will be available to answer questions about the project.
    - (4) Where bid documents may be reviewed.
    - (5) Any special requirements that may exist, such as insurance, licenses, bonds and financial arrangements.
- If there are more than three (3) minority businesses in the general locality of the project who offer similar contracting or subcontracting services in the specific trade, the contractor(s) shall notify three (3), but may contact more, if the contractor(s) so desires.
- d. During the bidding process, comply with the contractor(s) requirements listed in the proposal for minority participation.
  - e. Identify on the bid the minority businesses that will be utilized on the project with corresponding total dollar value of the bid and affidavit listing Good Faith Efforts as required by G.S. §143-128.2(c) and G.S. §143-128.2(f).
  - f. Make documentation showing evidence of implementation of PM, CM-at-Risk and First-Tier Subcontractor responsibilities available for review by the Owner and State officials upon request.
  - g. Upon being named the apparent low bidder, the bidder shall provide one of the following:
    - (1) an affidavit (Affidavit C) that includes a description of the portion of work to be executed by minority businesses, expressed as a percentage of the total contract price, which is equal to or more than the applicable goal; (2) if the percentage is not equal to the applicable goal, then documentation of all Good Faith Efforts taken to meet the goal. Failure to comply with these requirements is grounds for rejection of the bid and award to the next lowest responsible and responsive bidder.
  - h. The contractor(s) shall identify the name(s) of minority business subcontractor(s) and

corresponding dollar amount of work on the schedule of values. The schedule of values shall be provided as required in the General Conditions of the Contract to facilitate payments to the subcontractors.

- i. The contractor(s) shall submit with each monthly pay request(s) and final payment(s), “MBE Documentation for Contract Payment” - (Appendix E), for Designer’s review.
  - j. During the construction of a project, at any time, if it becomes necessary to replace a minority business subcontractor, immediately advise the Owner of the circumstances involved. The prime contractor shall make a good faith effort to replace a minority business subcontractor with another minority business subcontractor.
  - k. If during the construction of a project additional subcontracting opportunities become available, make a Good Faith Effort to solicit subbids from minority businesses.
  - l. It is intended that these requirements apply to all contractors performing as prime contractor and first tier subcontractor under construction manager at risk on County projects.
5. Minority Business Responsibilities  
While minority businesses are not required to become certified in order to participate in County construction projects, it is recommended that they become certified and should take advantage of the appropriate technical assistance that is made available. In addition, minority businesses who are contacted by owners or bidders must respond promptly whether or not they wish to submit a bid.

#### **SECTION D: DISPUTE PROCEDURES**

It is the policy of this State that disputes that involve a person’s rights, duties or privileges should be settled through informal procedures. To that end, minority business disputes arising under these Guidelines should be resolved as governed under G.S. §143-128(g).

#### **SECTION E: ADDITIONAL INFORMATION**

Listings of certified woman-owned and minority-owned businesses can be found at the following Web site:

NC Vendor Link - [www.ips.state.nc.us/ips/vendor/vndpubmain.asp](http://www.ips.state.nc.us/ips/vendor/vndpubmain.asp)

## **MINORITY BUSINESS CONSTRUCTION CONTRACT PROVISIONS**

### **APPLICATION:**

The **Guidelines for Recruitment and Selection of Minority Businesses for Participation in the Town of Granite Quarry \_ Town Hall Façade Improvement Construction Contracts** are hereby made a part of these contract documents.

### **MINORITY BUSINESS SUBCONTRACT GOALS:**

The goals for participation by minority firms as subcontractors on this project have been set at 10%.

The bidder must identify on its bid the minority businesses that will be utilized on the project with corresponding total dollar value of the bid and affidavit (Affidavit A) listing good faith efforts **or** affidavit (Affidavit B) of self-performance of work, if the bidder will perform work under contract by its own workforce, as required by G.S. §143-128.2(c) and G.S. 143-128.2(f).

The lowest responsible, responsive bidder must provide Affidavit C that includes a description of the portion of work to be executed by minority businesses, expressed as a percentage of the total contract price, which is equal to or more than the applicable goal.

### **OR**

Provide Affidavit C that includes a description of the portion of work to be executed by minority businesses, expressed as a percentage of the total contract price, **with documentation of Good Faith Effort and Affidavit D if the percentage is not equal to the applicable goal.**

### **OR**

Provide Affidavit B, which includes sufficient information for the Owner to determine that the bidder does not customarily subcontract work on this type project.

**The above information must be provided as required. Failure to submit these documents is grounds for rejection of the bid.**

**MINIMUM COMPLIANCE REQUIREMENTS:**

All written statements, affidavits or intentions made by the bidder shall become a part of the agreement between the Contractor and the Owner for performance of this contract. Failure to comply with any of these statements, affidavits or intentions, or with the minority business Guidelines shall constitute a breach of the contract. A finding by the Owner that any information submitted either prior to award of the contract or during the performance of the contract is inaccurate, false or incomplete, shall also constitute a breach of the contract. Any such breach may result in termination of the contract in accordance with the termination provisions contained in the contract. It shall be solely at the option of the Owner whether to terminate the contract for breach.

In determining whether a contractor has made Good Faith Efforts, the Owner will evaluate all efforts made by the Contractor and will determine compliance in regard to quantity, intensity, and results of these efforts. Good Faith Efforts include:

- (1) Contacting minority businesses that reasonably could have been expected to submit a quote and that were known to the Contractor or available on State or local government maintained lists at least 10 days before the bid or proposal date and notifying them of the nature and scope of the work to be performed.
- (2) Making the construction plans, specifications and requirements available for review by prospective minority businesses, or providing these documents to them at least 10 days before the bid or proposals are due.
- (3) Breaking down or combining elements of work into economically feasible units to facilitate minority participation.
- (4) Working with minority trade, community, or contractor organizations identified by the Office for Historically Underutilized Businesses and included in the bid documents that provide assistance in recruitment of minority businesses.
- (5) Attending any prebid meetings scheduled by the public Owner.
- (6) Providing assistance in getting required bonding or insurance or providing alternatives to bonding or insurance for subcontractors.
- (7) Negotiating in good faith with interested minority businesses and not rejecting them as unqualified without sound reasons based on their capabilities. Any rejection of a minority business based on lack of qualification should have the reasons documented in writing.
- (8) Providing assistance to an otherwise qualified minority business in need of equipment, loan capital, lines of credit, or joint pay agreements to secure loans, supplies, or letters of credit, including waiving credit that is ordinarily required. Assisting minority businesses in obtaining the same unit pricing with the bidder's suppliers in order to help minority businesses in establishing credit.
- (9) Negotiating joint venture and partnership arrangements with minority businesses in order to

increase opportunities for minority business participation on a public construction or repair project when possible.

- (10) Providing quick pay agreements and policies to enable minority contractors and suppliers to meet cash-flow demands.



do hereby certify that on this project, we will use the following minority business enterprises as construction subcontractors, vendors, suppliers or providers of professional services.

\*Minority categories: Black, African American (**B**), Hispanic (**H**), Asian American (**A**) American Indian (**I**), Female (**F**) Socially and Economically Disadvantaged (**D**)

MBForms 2002-Revised  
March, 2005



# State of North Carolina AFFIDAVIT A – Listing of Good Faith Efforts

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

(Name of Bidder)

Affidavit of \_\_\_\_\_

I have made a good faith effort to comply under the following areas checked:

**Bidders must earn at least 50 points from the good faith efforts listed for their bid to be considered responsive.** (1 NC Administrative Code 30 I.0101)

- ☐ **1 – (10 pts)** Contacted minority businesses that reasonably could have been expected to submit a quote and that were known to the contractor, or available on State or local government maintained lists, at least 10 days before the bid date and notified them of the nature and scope of the work to be performed.
- ☐ **2 --(10 pts)** Made the construction plans, specifications and requirements available for review by prospective minority businesses, or providing these documents to them at least 10 days before the bids are due.
- ☐ **3 – (15 pts)** Broken down or combined elements of work into economically feasible units to facilitate minority participation.
- ☐ **4 – (10 pts)** Worked with minority trade, community, or contractor organizations identified by the Office of Historically Underutilized Businesses and included in the bid documents that provide assistance in recruitment of minority businesses.
- ☐ **5 – (10 pts)** Attended prebid meetings scheduled by the public owner.
- ☐ **6 – (20 pts)** Provided assistance in getting required bonding or insurance or provided alternatives to bonding or insurance for subcontractors.
- ☐ **7 – (15 pts)** Negotiated in good faith with interested minority businesses and did not reject them as unqualified without sound reasons based on their capabilities. Any rejection of a minority business based on lack of qualification should have the reasons documented in writing.
- ☐ **8 – (25 pts)** Provided assistance to an otherwise qualified minority business in need of equipment, loan capital, lines of credit, or joint pay agreements to secure loans, supplies, or letters of credit, including waiving credit that is ordinarily required. Assisted minority businesses in obtaining the same unit pricing with the bidder's suppliers in order to help minority businesses in establishing credit.
- ☐ **9 – (20 pts)** Negotiated joint venture and partnership arrangements with minority businesses in order to increase opportunities for minority business participation on a public construction or repair project when possible.
- ☐ **10 - (20 pts)** Provided quick pay agreements and policies to enable minority contractors and suppliers to meet cash-flow demands.

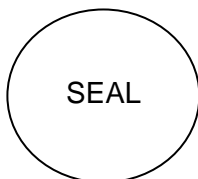
The undersigned, if apparent low bidder, will enter into a formal agreement with the firms listed in the Identification of Minority Business Participation schedule conditional upon scope of contract to be executed with the Owner. Substitution of contractors must be in accordance with GS143-128.2(d) Failure to abide by this statutory provision will constitute a breach of the contract.

The undersigned hereby certifies that he or she has read the terms of the minority business commitment and is authorized to bind the bidder to the commitment herein set forth.

Date: \_\_\_\_\_ Name of Authorized Officer: \_\_\_\_\_

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

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



State of \_\_\_\_\_, County of \_\_\_\_\_

Subscribed and sworn to before me this \_\_\_\_\_ day of \_\_\_\_\_ 20\_\_\_\_

Notary Public \_\_\_\_\_

My commission expires \_\_\_\_\_



# State of North Carolina --AFFIDAVIT B-- Intent to Perform Contract with Own Workforce.

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

Affidavit of \_\_\_\_\_  
(Name of Bidder)

I hereby certify that it is our intent to perform 100% of the work required for the \_\_\_\_\_  
\_\_\_\_\_ contract.  
(Name of Project)

In making this certification, the Bidder states that the Bidder does not customarily subcontract elements of this type project, and normally performs and has the capability to perform and will perform all elements of the work on this project with his/her own current work forces; and

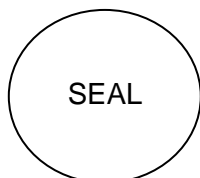
The Bidder agrees to provide any additional information or documentation requested by the owner in support of the above statement.

The undersigned hereby certifies that he or she has read this certification and is authorized to bind the Bidder to the commitments herein contained.

Date: \_\_\_\_\_ Name of Authorized Officer: \_\_\_\_\_

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

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



State of \_\_\_\_\_, County of \_\_\_\_\_

Subscribed and sworn to before me this \_\_\_\_\_ day of \_\_\_\_\_ 20\_\_\_\_

Notary Public \_\_\_\_\_

My commission expires \_\_\_\_\_



# State of North Carolina - AFFIDAVIT C - Portion of the Work to be Performed by Minority Firms

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

(Note this form is to be submitted only by the apparent lowest responsible, responsive bidder.)

If the portion of the work to be executed by minority businesses as defined in GS143-128.2(g) is equal to or greater than 10% of the bidders total contract price, then the bidder must complete this affidavit. This affidavit shall be provided by the apparent lowest responsible, responsive bidder within **72 hours** after notification of being low bidder.

Affidavit of \_\_\_\_\_ I do hereby certify that on the  
(Name of Bidder)

(Project Name)  
Project ID# \_\_\_\_\_ Amount of Bid \$ \_\_\_\_\_

I will expend a minimum of \_\_\_\_\_% of the total dollar amount of the contract with minority business enterprises. Minority businesses will be employed as construction subcontractors, vendors, suppliers or providers of professional services. Such work will be subcontracted to the following firms listed below. Attach additional sheets if required

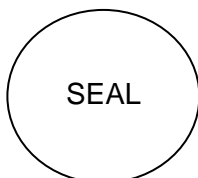
Name and Phone Number	*Minority Category	Work description	Dollar Value

\*Minority categories: Black, African American (**B**), Hispanic (**H**), Asian American (**A**) American Indian (**I**), Female (**F**) Socially and Economically Disadvantaged (**D**)

Pursuant to GS143-128.2(d), the undersigned will enter into a formal agreement with Minority Firms for work listed in this schedule conditional upon execution of a contract with the Owner. Failure to fulfill this commitment may constitute a breach of the contract.

The undersigned hereby certifies that he or she has read the terms of this commitment and is authorized to bind the bidder to the commitment herein set forth.

Date: \_\_\_\_\_ Name of Authorized Officer: \_\_\_\_\_



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

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

State of \_\_\_\_\_, County of \_\_\_\_\_

Subscribed and sworn to before me this \_\_\_\_\_ day of \_\_\_\_\_ 20\_\_\_\_

Notary Public \_\_\_\_\_

My commission expires \_\_\_\_\_





# State of North Carolina AFFIDAVIT D – Good Faith Efforts

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

(Note this form is to be submitted only by the apparent lowest responsible, responsive bidder.)

If the goal of 10% participation by minority business **is not** achieved, the Bidder shall provide the following documentation to the Owner of his good faith efforts:

Affidavit of \_\_\_\_\_ I do hereby certify that on the  
(Name of Bidder)

(Project Name)  
Project ID# \_\_\_\_\_ Amount of Bid \$ \_\_\_\_\_

I will expend a minimum of \_\_\_\_\_% of the total dollar amount of the contract with minority business enterprises. Minority businesses will be employed as construction subcontractors, vendors, suppliers or providers of professional services. Such work will be subcontracted to the following firms listed below. (Attach additional sheets if required)

Name and Phone Number	*Minority Category	Work description	Dollar Value

\*Minority categories: Black, African American (**B**), Hispanic (**H**), Asian American (**A**) American Indian (**I**), Female (**F**) Socially and Economically Disadvantaged (**D**)

**Examples** of documentation that may be required to demonstrate the Bidder's good faith efforts to meet the goals set forth in these provisions include, but are not necessarily limited to, the following:

- Copies of solicitations for quotes to at least three (3) minority business firms from the source list provided by the State for each subcontract to be let under this contract (if 3 or more firms are shown on the source list). Each solicitation shall contain a specific description of the work to be subcontracted, location where bid documents can be reviewed, representative of the Prime Bidder to contact, and location, date and time when quotes must be received.
- Copies of quotes or responses received from each firm responding to the solicitation.
- A telephone log of follow-up calls to each firm sent a solicitation.
- For subcontracts where a minority business firm is not considered the lowest responsible sub-bidder, copies of quotes received from all firms submitting quotes for that particular subcontract.
- Documentation of any contacts or correspondence to minority business, community, or contractor organizations in an attempt to meet the goal.
- Copy of pre-bid roster.
- Letter documenting efforts to provide assistance in obtaining required bonding or insurance for minority business.
- Letter detailing reasons for rejection of minority business due to lack of qualification.
- Letter documenting proposed assistance offered to minority business in need of equipment, loan capital, lines of credit, or joint pay agreements to secure loans, supplies, or letter of credit, including waiving credit that is ordinarily required.

Failure to provide the documentation as listed in these provisions may result in rejection of the bid and award to the next lowest responsible and responsive bidder.

Pursuant to GS143-128.2(d), the undersigned will enter into a formal agreement with Minority Firms for work listed in this schedule conditional upon execution of a contract with the Owner. Failure to fulfill this commitment may constitute a breach of the contract.

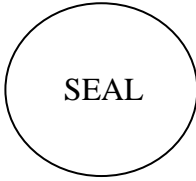


The undersigned hereby certifies that he or she has read the terms of this commitment and is authorized to bind the bidder to the commitment herein set forth.

Date: \_\_\_\_\_ Name of Authorized Officer: \_\_\_\_\_

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

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



State of \_\_\_\_\_, County of \_\_\_\_\_

Subscribed and sworn to before me this \_\_\_\_\_ day of \_\_\_\_\_ 20\_\_\_\_

Notary Public \_\_\_\_\_

My commission expires \_\_\_\_\_



## APPENDIX E

### MBE DOCUMENTATION FOR CONTRACT PAYMENTS

Prime Contractor/Architect: \_\_\_\_\_

Address & Phone: \_\_\_\_\_

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

Pay Application #: \_\_\_\_\_ Period: \_\_\_\_\_

The following is a list of payments made to Minority Business Enterprises on this project for the above-mentioned period.

MBE FIRM NAME	* INDICATE TYPE OF MBE	AMOUNT TO BE PAID	TOTAL PAYMENTS TO DATE	TOTAL AMOUNT COMMITTED

\*Minority categories: Black, African American (B), Hispanic (H), Asian American (A), American Indian (I), Female (F), Social and Economically Disadvantage (D)

Date: \_\_\_\_\_ Approved/Certified By: \_\_\_\_\_  
Name

\_\_\_\_\_  
Title

\_\_\_\_\_  
Signature

**SUBMIT WITH EACH PAY REQUEST & FINAL PAYMENT**



**E-VERIFY AFFIDAVIT**

I, \_\_\_\_\_ (the individual attesting below), being duly authorized by and on behalf of \_\_\_\_\_ (the entity bidding on the project hereinafter "Employer") after first being duly sworn hereby swears or affirms as follows:

1. Employer understands that E-Verify is the federal E-Verify program operated by the United States Department of Homeland Security and other federal agencies, or any successor or equivalent program used to verify the work authorization of newly hired employees pursuant to federal law in accordance with NCGS §64-25(5).
2. Employer understands that Employers Must Use E-Verify. Each employer, after hiring an employee to work in the United States, shall verify the work authorization of the employee through E-Verify in accordance with NCGS §64-26(a).
3. Employer is a person, business entity, or other organization that transacts business in this State and that employs 25 or more employees in this State. (mark Yes or No)
  - a. YES \_\_\_\_\_, or
  - b. NO \_\_\_\_\_
4. Employer's subcontractors comply with E-Verify, and if Employer is the winning bidder on this project Employer will ensure compliance with E-Verify by any subcontractors subsequently hired by Employer.

This \_\_\_\_\_ day of \_\_\_\_\_, 2017.

\_\_\_\_\_  
Signature of Affiant  
Print or Type Name: \_\_\_\_\_

Signed and sworn (or affirmed) before me this  
\_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_.

My Commission Expires:

\_\_\_\_\_  
(Notary Public)  
Affix Official/Notarial Seal





# OFFICE STANDARD RATE SHEET



January 2019

**For additional architectural services above basic fees for projects, change orders, expert witnessing, special circumstance problem solving or projects without a clearly-defined scope, we provide services at the following hourly rates:**

**Principal \$ 180 per hour**

The Partner in responsible charge of each project. The Principal has controlling authority to obligate the Firm in all contractual areas of design, production and finance.

**Project Architect \$ 120 per hour**

The Architect responsible for overall project management. Oversees all design, construction consultations, site evaluations and preliminary studies, the preparation of plans, specifications and contract documents, administration of construction contracts and related services.

**Intern Architect \$ 85 per hour**

Graduate of an accredited School of Design working in the Intern Development Program towards partial satisfaction of the architectural licensing and certification requirements.

**Technical Draftsperson \$ 75 per hour**

Design and production personnel qualified in the preparation of plans, specifications and construction documents.

**Administration \$ 50 per hour**

All clerical, accounting and office management personnel.

**Professional Consultants Cost plus 20%**

Additional structural, mechanical and electrical engineering or other specialized consultant services.

## Travel Time

Travel time is billed at 1/2 the hourly rate if more than 3 hours total travel time is required for any trip.

## Reimbursables

<b>Expenses of reproduction</b>	<b>Cost plus 20%</b>
<b>Expenses of postage and handling</b> of drawings, specifications, and other documents	<b>Cost plus 20%</b>
<b>Expenses of renderings, models, and mock-ups</b>	<b>Cost plus 20%</b>
<b>Expense of any additional insurance coverage</b> or limits including professional liability insurance requested by the owner in excess of that normally carried.	<b>At Cost</b>
<b>Living expenses in connection with out-of-town travel.</b>	<b>At Cost</b>
<b>Long distance communications</b>	<b>At Cost</b>
<b>Fees paid for securing approval</b> of authorities having jurisdiction over the Project.	<b>At Cost</b>
<b>Transportation</b> in connection with Project	<b>.58 cents/mile</b>



# **AIA® Document A201™ – 2017**

## ***General Conditions of the Contract for Construction***

for the following PROJECT:

*(Name and location or address)*

**Granite Quarry Town Hall  
Façade Improvements  
143 N. Salisbury Street  
Granite Quarry, NC 28072**

**THE OWNER:**

*(Name, legal status and address)*

**Town of Granite Quarry  
143 N. Salisbury Street  
Granite Quarry, NC 28072**

**THE ARCHITECT:**

*(Name, legal status and address)*

**Ramsay Burgin Smith Architects, Inc.  
225 North Main St., Suite 501  
Salisbury, NC 28144**

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### **ADDITIONS AND DELETIONS:**

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

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

For guidance in modifying this document to include supplementary conditions, see AIA Document A503™, Guide for Supplementary Conditions.

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Init.

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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.

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

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

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

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

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

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

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

#### **§ 12.1 Uncovering of Work**

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

**§ 12.1.2** If a portion of the Work has been covered that the Architect has not specifically requested to examine prior to its being covered, the Architect may request to see such Work and it shall be uncovered by the Contractor. If such Work is in accordance with the Contract Documents, the Contractor shall be entitled to an equitable adjustment to the Contract Sum and Contract Time as may be appropriate. If such Work is not in accordance with the Contract Documents, the costs of uncovering the Work, and the cost of correction, shall be at the Contractor's expense.

#### **§ 12.2 Correction of Work**

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

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

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

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

that period after receipt of notice from the Owner or Architect, the Owner may correct it in accordance with Section 2.5.

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

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

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

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

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

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

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

## **ARTICLE 13 MISCELLANEOUS PROVISIONS**

### **§ 13.1 Governing Law**

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

### **§ 13.2 Successors and Assigns**

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

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

### **§ 13.3 Rights and Remedies**

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

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

## **§ 13.4 Tests and Inspections**

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

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

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

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

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

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

## **§ 13.5 Interest**

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

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

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

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

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

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



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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

- .1 cease operations as directed by the Owner in the notice;

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

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

## **ARTICLE 15 CLAIMS AND DISPUTES**

### **§ 15.1 Claims**

#### **§ 15.1.1 Definition**

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

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

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

#### **§ 15.1.3 Notice of Claims**

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

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

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

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

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

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

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

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

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

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

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

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

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

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

**§ 15.2 Initial Decision**

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

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

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

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

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

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



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

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

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

### § 15.3 Mediation

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

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

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

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

### § 15.4 Arbitration

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

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

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

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

**§ 15.4.4 Consolidation or Joinder**

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

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

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

# **Additions and Deletions Report for**

## **AIA® Document A201™ – 2017**

This Additions and Deletions Report, as defined on page 1 of the associated document, reproduces below all text the author has added to the standard form AIA document in order to complete it, as well as any text the author may have added to or deleted from the original AIA text. Added text is shown underlined. Deleted text is indicated with a horizontal line through the original AIA text.

Note: This Additions and Deletions Report is provided for information purposes only and is not incorporated into or constitute any part of the associated AIA document. This Additions and Deletions Report and its associated document were generated simultaneously by AIA software at 11:18:46 ET on 02/06/2020.

### **PAGE 1**

**Granite Quarry Town Hall**  
**Façade Improvements**  
**143 N. Salisbury Street**  
**Granite Quarry, NC 28072**

...

**Town of Granite Quarry**  
**143 N. Salisbury Street**  
**Granite Quarry, NC 28072**

...

**Ramsay Burgin Smith Architects, Inc.**  
**225 North Main St., Suite 501**  
**Salisbury, NC 28144**

## ***Certification of Document's Authenticity***

***AIA® Document D401™ – 2003***

I, \_\_\_\_\_, hereby certify, to the best of my knowledge, information and belief, that I created the attached final document simultaneously with its associated Additions and Deletions Report and this certification at 11:18:46 ET on 02/06/2020 under Order No. 4258606096 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, as published by the AIA in its software, other than those additions and deletions shown in the associated Additions and Deletions Report.

\_\_\_\_\_  
*(Signed)*

\_\_\_\_\_  
*(Title)*

\_\_\_\_\_  
*(Dated)*

## SUPPLEMENTARY CONDITIONS

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

### ARTICLE 1; GENERAL PROVISIONS

#### 1.2 Correlations and Intent of the Contract Documents

Add the following Clauses 1.2.1.1 through 1.2.1.3 to Subparagraph 1.2.1:

**1.2.1.1** In the event of ambiguity or conflict of statement or directive, the contract documents shall be interpreted in this order:

1. (highest) The General Conditions (edition as issued with the project specifications)
2. The Owner-Contractor Agreement
3. The Supplementary Conditions
4. Written Dimensions on the Drawings
5. Large Scale Details on the Drawings
6. Detailed Specifications
7. Small Scale Details on the Drawings

**1.2.1.2** Should the above subparagraph fail to solve the ambiguity or conflict of statement or directive, the Contractor shall have included in the contract price the better quality and/or quantity of work or materials shown or listed.

**1.2.1.3** Items shown on smaller plans and details that are not shown on larger plans and details **ARE STILL PART OF THE WORK**. Only information **IN CONFLICT** between small and large details follows the "Larger plans and details rule" that larger plans and details dictate work.

### ARTICLE 2; OWNER

Delete Subparagraph 2.2.5 and substitute the following subparagraph 2.2.5 (including Clauses 2.2.5.1 through 2.2.5.5):

**2.2.5** The Contractor(s), without cost of copies, will be supplied the following numbers of Contract Documents:

**2.2.5.1** All Contract Documents—1 complete set

**2.2.5.2** Construction Drawings - 1 complete set for

General Contractor

**2.2.5.3** Specifications - 1 complete set for

General Contractor

**2.2.5.4** Miscellaneous Supplemental Detail Drawings, Addenda, Etc. used in the bid process - 1 copy each item.

General Contractor

**2.2.5.5** In the case of a single Prime Contractor, all copies listed in these Clauses will be made available to the Prime Contractor for distribution. Neither the Architect nor Owner shall be responsible for further distribution or the final numbers, which the Prime Contractor distributes to each subcontractor.

## **2.4 Owner's Right to Carry out the Work**

Add the following Subparagraph 2.4.2 and Clauses 2.4.2.1 through 2.4.2.7 to Paragraph 2.4:

**2.4.2** The Owner may declare the Contractor in default for any one or more of the following reasons:

- 2.4.2.1** failure to complete the Work within the Contract Time or any extension thereof;
- 2.4.2.2** failure or refusal to comply with an order of the Architect within a reasonable time;
- 2.4.2.3** failure or refusal to remove rejected materials within 30 days;
- 2.4.2.4** failure or refusal to perform anew any defective or unacceptable Work;
- 2.4.2.5** failure to provide a qualified superintendent, competent workers or subcontractors to carry on the Work in an acceptable manner;
- 2.4.2.6** failure to promptly pay subcontractors and material suppliers in a timely manner; or
- 2.4.2.7** if the Contractor abandons the Project for 15 or more days;

## **ARTICLE 3; CONTRACTOR**

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

Add the following Clauses 3.2.1.1 and 3.2.1.2 and 3.2.1.3 to Subparagraph 3.2.1

**3.2.1.1** Should detailed information be lacking, Contractor before proceeding with work and if possible before bidding will refer the matter in writing to the Architect for his decision and/or interpretation. If the Engineer's name appears on drawings in question, the contractor shall refer the matter in writing directly to the Engineer. The Contractor and Engineer shall keep the Architect informed with copies of all communications. Final decisions shall be by the Architect. **Should errors or conflicts occur which are not clarified by the Architect, the Contractor is held to have included in the contract price the better quality and/or quantity of work or materials involved.**

**3.2.1.2** Before ordering any materials or doing any work, the contractor shall verify all measurements, grades, levels, and lines at the site and shall be responsible for the correctness of same before starting work. Any differences shall be submitted by written notice to the architect for consideration before continuing the work. No extra changes will be allowed at completion on account of differences between actual dimensions and those indicated on the drawings.

**3.2.1.3** The contractor will not be allowed any extra compensation by reason of lack of familiarity concerning site conditions which site inspection might have disclosed had Contractor fully informed himself prior to bidding.

**3.2.1.4** If in the Contractor's opinion, any work is indicated in the drawings, or is specified in such a manner as will make it impossible to produce first class work, or discrepancy appear between Drawings and Specifications, Contractor shall refer to Architect for interpretation before proceeding with work. Architect will respond with addenda, bulletin drawings, or construction directives as required.

**3.2.1.5** No work shall be installed that obviously will not work, fit or function in the manner intended. Failure to consult with architect/engineer prior to installing such work will not result in the Owner participating in the cost to have the adjusted such that it will work fit or function properly.

Add the following Clause 3.2.2.1 to Subparagraph 3.2.2:

**3.2.2.1** The Contractor shall assume full responsibility for accuracy of measurements obtained at the site. No extra compensation will be allowed because of differences between actual measurements and dimensions indicated on the Drawings, nor for Contractor's failure to coordinate work with actual field measurements.

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

Add the following Clause 3.3.2.1 to Subparagraph 3.3.2:

**3.3.2.1** Successful completion of the project depends upon the integrity, ability, and interest of the several tradesmen in producing a superior job. The Architect expects Contractor, each subcontractor, and/or craftsman to produce quality results in his own field within the scope of the work outlined by the drawings and specifications that cannot practically cover each construction operation and detail routinely employed by a conscientious craftsman in the normal process of executing his work.

### **3.4 Labor and Material**

Add the following Subparagraphs 3.4.4 through 3.4.7 to Paragraph 3.4:

**3.4.4** During Architect's site visits, Contractor shall furnish necessary incidental mechanics, labor, tools, etc. to assist Architect in observing progress of the work.

**3.4.5** During inspections (Preliminary Final and Final Inspections) Contractor shall furnish necessary mechanics, labor, tools, etc. for thorough inspection of project.

**3.4.6** The Contractor shall provide, maintain, and make available to other contractors, subcontractors and craftsmen, while in place for his own use, scaffolding, temporary stairs, ladders, ramps, runways, hoists, chutes, etc., as required for proper execution of work by all trades, and remove same at completion of job.

**3.4.7** The Contractor shall be responsible for inspection of portions of work already performed under this contract by the Contractor and/or his subcontractors to determine that such portions are in proper condition to receive subsequent work."

### **3.5 Warranty**

Add the following Subparagraphs 3.5.1.

**3.5.1** The warranty period shall be defined as being **one (1) year** after the date of Substantial Completion.

### **3.6 Taxes**

Add the following to Subparagraph 3.6.1 to Paragraph 3.6:

**3.6.1** Pursuant to North Carolina General Statutes, Section 105-164.14, the Owner is eligible for sales and use tax refund on all materials that become a permanent part of the construction. Since the Owner will desires to receive and keep all sales tax refunds the contractor must include these same sales tax charges in his bid price. **NO REFUND OF SALES TAX WILL BE FORWARDED TO THE CONTRACTOR!** The Contractor agrees to provide the Owner documentation that meets the requirements of Sales and Use Tax Regulations 42 regarding requests for refund of sales and use taxes. Those requirements are outlined below:

- (g) All refund claims must be substantiated by proper documentary proof and only those taxes actually paid by the claimant during the fiscal year covered by the refund claim may be included in the claim.

Any local sales or use taxes included in the claim must be separately stated in the claim for refund. In cases where more than one county's sales and use tax has been paid, a break down

must be attached to the claim for refund showing the amount of each county's local tax separately.

To substantiate a refund claim for sales and use taxes paid on purchase of building materials, supplies, fixtures, and equipment by its Contractor, the claimant must secure from such Contractor certified statements setting forth the cost of the property purchases from each vendor and the amount of state and local sales and/or use taxes paid thereon. Such statement must also include the cost of any tangible personal property withdrawn from the Contractor's warehouse stock and the amount of state and local sales or use tax paid thereon by the Contractor. Similar certified statements by his subcontractors must be obtained by the General contractor and furnished to the claimant (Owner). Any local sales or use taxes included in the Contractor's statements must be shown separately from the State sales or use taxes. The Contractor's statements must be shown separately from the State sales or use taxes. The Contractor's statements must not contain sales or use taxes paid on purchase of tangible personal property purchased by such Contractors for use in performing the contract which does not annex to, affix to or in some manner become a part of the building or structure being erected, altered or repaired for the governmental entities as defined by G.S. 105-164.14(c). Examples of property on which sales and use tax has been paid by the Contractor and which should not be included in the Contractor's statement are scaffolding, forms for concrete, fuel for the operation of machinery and equipment, tools, equipment repair parts and equipment rentals, blueprints, etc.

The Contractor shall submit notarized sales tax certificates that meet the requirements detailed above with each Application for Payment. Payment will not be made until the sales tax certificate(s) have been submitted to the Owner."

### **3.9 Superintendent**

Add the following Subparagraph 3.9.2 to Paragraph 3.9:

**3.9.2** Should the superintendent be changed for the convenience of the Contractor without the Architect's approval, the Contractor agrees to compensate the Architect for the time required to acquaint the new superintendent with previous instructions. Compensation will be in accordance with the OFFICE STANDARD RATE SHEET. A copy of which is attached and incorporated herein by reference.

### **3.10 Contractor' Construction Schedules**

Add the following Clause 3.10.1.1 to Subparagraph 3.10.1:

**3.10.1.1** No application for payment will be approved until the Construction Progress Schedule has been received and approved by the Architect."

### **3.14 Cutting and Patching**

Add the following Subparagraphs 3.14.1 through 3.14.3 to Paragraph 3.14:

**3.14.1** The General Contractor shall typically provide openings and lintels for other prime contractors and/or subcontractors' work as building construction progresses. The General Contractor shall coordinate with these contractor's and/or subcontractors their requirements prior to beginning construction. **Should another prime or subcontractor in need of the opening fail to coordinate the required opening with the General Contractor and there is no evidence on the drawing that an opening is required, the prime or subcontractor involved shall bear the financial responsibility for having the General Contractor provide the required opening in previously constructed work.**



**3.14.2** The General Contractor shall provide all chases, vertical openings, structural framing around same, etc. of proper size as required by subcontractors whether specifically shown or not. Verify locations with Architect prior to constructing same or routing work toward same.

**3.14.3** Openings required in existing walls, floor and roof structure shall be made by the prime contractor whose work requires the passage, unless the opening is specifically called out as General construction work. Openings shall be reasonably sized, made in a clean cut manner, and be supported with a lintel appropriate for the span.

## **ARTICLE 4; ADMINISTRATION OF THE CONTRACT**

### **4.2 Architects Administration or the Contract**

Add the following Clauses 4.2.4.1 and 4.2.4.2 to Subparagraph 4.2.4:

**4.2.4.1** Should the Contractor perform work directed by the Owner, without the knowledge and approval of the Architect, including but not limited to work relating to artistic effect, code compliance, structures, building plumbing- mechanical- electrical systems performance, and "life safety", **the cost of necessary corrective measures will be borne by the Contractor executing such work.**

**4.2.4.2** The Contractor shall copy Architect on all communications directly with the Owner.

**4.2.4.3** Failure on the part of the Architect to condemn or detect defective material or workmanship shall not relieve the Contractor from liability to make good should it be discovered later or cause damage to the building.

## **ARTICLE 5; SUBCONTRACTORS**

Add new Paragraph 5.5 (including Subparagraphs 5.5.1 through 5.5.4) to ARTICLE 5:

### **5.5 Mutual Responsibility**

**5.5.1** The contractor and subcontractors shall check and verify data contained in drawings, specifications, and work for which they are responsible, as well as the drawings, specifications, and work of other related contractor, subcontractors and/or trades before bidding if possible and again before construction to avoid bidding and/or installation conflicts. **The division of these specifications into sections is not intended to control the Contractor in dividing the work among subcontractors or to limit the scope of work performed by any trade under a given section.** The Architect will not undertake to settle any differences between the Contractor and his Subcontractors as to inclusion of work or materials items. It shall be the Contractor's entire responsibility for the proper coordination and completion of all the work described in these Specifications whether performed by the Contractor or Subcontractors, if any.

**5.5.2** Defects in work by others affecting proper application and/or installation of work, materials, devices, fixtures, and/or appliances, unless reported in writing to Architect and the General Contractor for their action, shall be the responsibility of the contractor or subcontractor failing to make report and corrected at his expense.

**5.5.3** Installation of materials, devices, fixtures, and/or appliances by the contractor or subcontractors is tantamount to his unqualified acceptance and check or related work by others.

**5.5.4** Each Subcontractor shall as a portion of his contract, anticipate and include normal cutting, patching, and digging required for the successful completion of his contract which may not practically be accomplished by the General Contractor as outlined in paragraph 3.14 Cutting and Patching.

## ARTICLE 7; CHANGES IN THE WORK

### 7.3. Construction Change Directives

Add the following Clause 7.3.6.6 to Subparagraph 7.3.6:

**7.3.6.6** The maximum allowance for overhead and profit combined shall not exceed fifteen percent (15%) of net cost for work not sublet by General Contractor; for work sublet, five percent (5%); for work by other Prime Contractors, if applicable, no percent (0%).

## ARTICLE 8; TIME

### 8.1 Definitions

Add the following Clauses 8.1.1.1 and 8.1.1.2 to Subparagraph 8.1.1:

**8.1.1.1** The contractors shall commence work to be performed under this agreement on a date to be specified in written order from the architect (or from the date of the Owner-Contractor Agreement if no such notice is given.) and shall fully complete all work hereunder by:

**TOTAL 4 Months – See Form of Proposal**

Contract time listed includes normal average number of bad weather days. It shall be Contractor's responsibility to keep accurate records and substantiate Climatic Center records for any possible extension he might later request.

Liquidated Damages shall be assessed and levied against the General Contractor (Single Prime) not attaining substantial completion in the amount of time indicated above. See Liquidated Damage Provision in Specification section 01011 "Summary of the Work".

**8.1.1.2** Normal bad weather days are defined as those days on which precipitation is 0.10 of an inch, or greater; or any 24 hour daylight period the temperature fails to exceed an average of 40 degrees F. **The normal bad weather days and any time extension will be based on the Local Climatological Data Sheets compiled and published by weatherbase.com for the nearest available city (Salisbury, NC).** If the total accumulated number of working days lost due to bad weather, from the start of work until the project is completed, exceeds the listed average number of bad weather days (*Average number of Rainy Days or Cold Weather Days*), the time for completion will be extended by the difference.

The Contractor's claims, if any, for extension of time must be made in writing to the Architect not more than five working days after the Contractor has notice of the delay. Thereafter, the Contractor must provide full details and supporting documentation with regard to the cause of the delay within 15 working days of the initial notice of the delay to the Architect. If either the initial notice or the supporting documentation are not filed with the Architect in writing within the time periods specified, the claim for delay shall be waived. If the cause for the delay is a continuing one then only one claim is necessary. The Contractor's supporting documentation to the Architect shall include and estimate of the probable effects of the delay on the progress of the Work and the Project Schedule.

Notwithstanding any other provisions of the Contract, Contractor agrees as between and among itself and the Owner, Architect, the General Contractor, and any other AE Representative that the Contractor's right to receive an extension of time pursuant to the provisions of this Paragraph shall be the Contractor's sole and exclusive remedy with regard to any Work and The Contractor hereby waives and releases claims for monetary damages arising out of or related to any such delay or interference, including but not limited to, claims for delay damages, interference damages, impact damages, acceleration damages and any other form of the time-related damages against the Owner and the Design Professional.

## ARTICLE 9; PAYMENTS AND COMPLETION

### 9.3 Applications for Payment

Add the following Clause 9.3.1.3 to Subparagraph 9.3.1:

**9.3.1.3** Prior to reaching a maximum retainage of two and one half percent (2.5%) of the total contract amount, the Owner will pay ninety five percent of the amount due on the Contractor's monthly application for payment. Thereafter the owner will pay one hundred percent (100%) of the Contractor's monthly application for payment amount, holding the 2.5% maximum retainage as a fixed amount until substantial completion is certified. Provisions of NC General Statutes 143-134.1 (b1) through (e) will be followed.

The following conditions must be met to qualify for contractual retainage reduction:

1. The project be on or ahead of schedule, and
2. Written permission from the Contractor's bonding company must be submitted.

### 9.8 Substantial Completion

Add the following Subparagraph 9.8.6 to Paragraph 9.8:

9.8.6 Should more than **two** substantial completion inspections be necessary, **the cost of the additional inspections shall be borne by the Contractor**. Compensation will be made for each authorized Owner's representatives involved in these inspections at the rate of \$100.00 per hour or fraction thereof. Compensation to the Architect and his consultants will be accordance with the OFFICE STANDARD RATE SHEET, a copy of which is attached and incorporated herein by reference.

## ARTICLE 11; INSURANCE AND BONDS

### Contractor's Liability Insurance

Add the following Clause 11.1.2.1 to Subparagraph 11.1.2:

**11.1.2.1** The insurance required by Subparagraph 11.1.1 shall be written for not less than the following, or greater if required by law.

#### 1. Workers' Compensation:

- |                           |               |
|---------------------------|---------------|
| (a) State:                | Statutory     |
| (b) Applicable Federal:   | Statutory     |
| (c) Employer's Liability: | \$ 500,000.00 |

#### 2. Comprehensive General Liability (including Premises-Operations; Independent Contractors' Protective; Products and Completed Operations; Broad Form Property Damage):

- |  |                                      |
|--|--------------------------------------|
| (a) Bodily Injury - including Personal injuries:   |                                      |
| \$ 2,000,000.00  | Each Occurrence and Annual Aggregate |
| (b) Property Damage:   |                                      |
| \$ 2,000,000.00  | Each Occurrence and Annual Aggregate |
| (c) Products and Completed Operations to be maintained for twelve months (12) after final payment. |                                      |

#### 3. Contractual Liability:

- (a) Bodily Injury:  
\$ 2,000,000.00                      Each Occurrence and Annual Aggregate
- (b) Property Damage:  
\$ 2,000,000.00                      Each Occurrence and Annual Aggregate

4. Personal Injury, with Employment Exclusion deleted:

\$ 2,000,000.00                      Annual Aggregate

5. Comprehensive Automobile Liability:

- (a) Bodily Injury:  
\$ 2,000,000.00                      Each Person  
\$ 2,000,000.00                      Each Occurrence
- (b) Property Damage:  
\$ 2,000,000.00                      Each Occurrence

Add the following Subparagraph 11.1.4 and 11.1.5 to Paragraph 11.1:

**11.1.4** The Contractor shall furnish to the Owner copies of any endorsements that are subsequently issued amending coverage of limits.

**11.1.5** Provide either in the body of the policy or by appropriate endorsement (rider) to the policy, a clause prohibiting cancellation or amendment of policy until thirty (30) days prior written notice has been sent to both the Architect and Owner of such alterations or cancellation.

### **11.3. Property Insurance**

Amend clause 11.3.1.1 to include the purchase of Property Insurance by each prime contractor as part of their contract requirements. Provide Builder's Risk Insurance for amount of project over and above contractor's liability coverage. The insured amount each contractor shall provide shall be as follows:

General Contractor: "all risk" - minimum of General contract amount.**11.4 Performance Bond and Payment Bond**

Delete Subparagraph 11.4.1 and substitute the following:

**11.4.1** Performance Bond and Labor and Material Payment Bond are required by Owner. Both bonds shall be in an amount equal to 100 percent of the contract sum and the cost shall be part of the contract price.

Add the following Subparagraphs 11.4.3 and 11.4.4 to Paragraph 11.4:

**11.4.3** The bonds shall be written on the standard AIA forms A311 or form A312; and shall guarantee faithful performance of the contract and shall guarantee payment of all bills for labor and materials when said bills are due, as provided by Article 3 of Chapter 44A of the North Carolina General Statutes.

**11.4.4** The bonds shall remain in full force and effect for at least twelve months after completion of the work and Architect's final Certificate is approved for payment to the Owner.

## **ARTICLE 13; MISCELLANEOUS**

### **13.1 Governing Law**

Delete paragraph 13.1 and substitute the following:

**13.1** This agreement shall be construed and enforced in accordance with the laws of the State of North Carolina. The parties to this agreement confer exclusive jurisdiction of all disputes arising hereunder upon the **General Courts of Justice of Rowan County, North Carolina.**

### **13.5 Tests and Inspections**

Add the following Subparagraph 13.5.7 to Paragraph 13.5:

**13.5.7** Mechanical devices, machinery, apparatus, or equipment supplied under contract may be tested by trial usage for a reasonable period as determined by the Architect before final acceptance. Such usage shall not be construed as evidence of acceptance, and no claim for damages, injury, or breakage shall be made if caused by weakness, inaccuracy of structural parts, defective materials or workmanship.

### **13.6 Interest**

Delete paragraph 13.6 and substitute the following:

**13.6** Payments due and unpaid under the Contract Documents shall bear interest from the date payment is due at six percent (6%), annually, compounded monthly or the maximum allowed by law **whichever is less.**

### **Add the Following New Articles:**

#### **13.8 IRAN DIVESTMENT ACT CERTIFICATION.**

By submission of a bid form of proposal, the General Contractor states that he/she can certify that – they are not on the Final Divestment List as created by the State Treasurer pursuant to N.C.G.S. 147-86.58. In compliance with the requirements of the Iran Divestment Act, the Contractor shall not utilize in the performance of this agreement any subcontractor that is identified on the Final Divestment List.

#### **13.9 E-VERIFY (See Affidavit)**

Pursuant to the terms of the NC General Statutes no county may enter into a contract unless the contractor and its subcontractors comply with the requirements of Article 2 of Chapter 64 of the NC General Statutes. Where applicable, failure to maintain compliance with the requirements of Article 2 of Chapter 64 of the NC General Statutes constitutes Sellers' breach of this agreement. By executing this Agreement, Sellers affirm Sellers are in compliance with Article 2 of Chapter 64 of the NC General Statutes. (AFFIDAVIT MUST BE INCLUDED WITH BID FORM OF PROPOSAL)

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

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

Delete Subparagraph 14.4.3 and replace with the following Subparagraphs 14.4.3 and 14.4.4:

**14.4.3** Upon such termination, the Contractor shall recover as its sole remedy payment for Work properly performed in connection with the terminated portion of the Work prior to the effective date of termination and for items properly and timely fabricated off the Project site, delivered and stored in accordance with the Owner's instructions. The Contractor hereby waives and forfeits all other claims for payment and damages, including, without limitation, anticipated profits.

**14.4.4** The Owner shall be credited for: (1) payments previously made to the Contractor for the terminated portions of the Work; (2) claims which the Owner has against the Contractor under the Contract Documents; and (3) the value of the materials, supplies, equipment or other items that are to be disposed of by the Contractor that are part of the Contract Sum.

#### **15.4 Arbitration**

Delete Paragraph 15.4.

NOTE: Further, any reference throughout the General Conditions to ARBITRATION or Paragraph 15.4 shall be deemed deleted and of no effect.

### **ADD THE FOLLOWING NEW ARTICLE**

#### **ARTICLE 16; EQUAL OPPORTUNITY**

##### **16.1 Equal Opportunity**

**16.1.1** In connection with the performance of work under this contract or purchase order, the Contractor or supplier agrees as follows:

**16.1.1.1** The Contractor will not discriminate against any employee or applicant for employment because of race, creed, color, or national origin. The Contractor will take affirmative action to insure that applicants are employed, and that employees are treated during employment without regard to their race, creed, color, or national origin. Such action shall include, but not be limited to, the following: employment, upgrading, demotion or transfer, recruitment advertising, layoff or termination, rates of pay, or other forms of compensation, and selection for training, including apprenticeship.

**16.1.1.2** The Contractor will, in all solicitation or advertisements for employees placed by or on behalf of the contractor, state that all applicants will receive consideration for employment without regard to race, creed, color, or national origin.

End of SUPPLEMENTARY CONDITIONS

## SECTION 01011 - SUMMARY OF THE WORK

### PART 1 - GENERAL

#### RELATED DOCUMENTS:

Drawings and general provisions of Contract, including General and Supplementary Conditions and Division-1 Specification sections, apply to work of this section.

#### PROJECT/WORK IDENTIFICATION:

General: Project name is **Granite Quarry Town Hall – Façade Improvements** located at 143 N. Salisbury Street in Granite Quarry, North Carolina as shown on Contract Documents prepared by RAMSAY BURGIN SMITH ARCHITECTS, INC. Drawings and Specifications are dated January 2020.

Prime Contracts, in the context used in this Section, are separate contracts that represent significant elements of work that are performed concurrently with and in close coordination with work performed on the project under other prime contracts. Prime contracts for this project include the following:

**Contract for General Work including the work associated with Architectural and Electrical work as required to complete the renovated building façade for its intended use and function.**

Contract Documents indicate the work of Contract and related requirements and conditions that have an impact on the project. Related requirements and conditions that are indicated on the Contract Documents include, but are not necessarily limited to the following:

Existing site conditions and restrictions on use of the site and adjacent streets and sidewalk.

Renovation and connection of two existing buildings. Work is primarily Interior Construction, but includes the total reroofing of the two buildings and exterior storefront renovations.

Work to be performed subsequent to work under the prime contract.

Items to be installed by prime contractor(s) that will be furnished by the Owner.

Work associated with accepted Alternates. If Any, See Section 01030.

Unit Prices that may be applicable to conditions found during construction. If any, See Section 01026.

Allowances. See Section 01030.

**PROJECT COMPLETION:** Prime Contractor shall deliver to the Owner from the notice to proceed, a completed building façade improvement and associated electrical components functioning, as designed and specified for its intended use as an educational facility.

**Construction Duration: 4 Months.**

**LIQUIDATED DAMAGES** shall be assessed and levied against each Prime Contractor not attaining substantial completion of the contractual work in the amount of time indicated above. The damage amount applicable to each Contractor shall be as listed below and shall begin the day following the scheduled date of substantial completion above (plus any written, approved extensions) and continue until final acceptance is obtained.

Each day following the intended substantial completion date for work not found substantially

complete will be subject to damage assessment at the following rate:

**GENERAL WORK ----- \$ 100.00 per calendar day**

Submittal of proposals constitutes acknowledgement by the General Contractor that time is of the essence to the Owner and of material value equal to the damage amounts listed above. These amounts are pre-established equitable values required to recover the losses incurred by the Owner for failure to have complete use of the façade improvements by the required completion date.

Each Subcontractor shall be responsible for reviewing the General Contractor's initial construction schedule and report any unacceptable scheduling. Failure by a subprime contractor to report objections within 30 days to the General Contractor (with copy to Architect) after issuance of initial schedule constitutes acceptance of the schedule.

The General Contractor shall accept clerical responsibility for reporting any delays due to extremes in weather or other uncontrollable events which create deviations from the established construction schedule that unduly exposes the contractor to liquidated damages. These reports are required to be submitted to the Architect on a monthly basis coinciding with the Contractor's monthly application for payments. Failure to report delays constitutes agreement by the General Contractor, that no time extension is forthcoming for each applicable month at the end of the project completion date.

**NOTE: Reporting of delays does not guarantee Owner or Architect agreement that delays are acceptable or justified.**

The completion date includes normal bad weather days. See Supplementary Conditions for definition of a bad weather day and the allowance for numbers of bad weather days included as "normal" within the contract base bid.

Change Orders will not automatically mean additional time. If events beyond the Prime Contractor's(s') control or if additional work adds time to the project's "critical path", a change order may then include an appropriate extension to the contract completion date.

GENERAL WORK includes work that is primarily architectural, structural and civil in nature plus work traditionally recognized as general construction, including demolition of existing where required, and new construction. It also includes both administrative and coordination responsibilities.

Pay for all building and permits fees required, including all government and utility or tap fees; sales, consumer and use taxes for the proper execution of the work.

Project coordination work between trades.

Temporary facilities related to General work as specified in the "Temporary Facilities" section of these specifications.

Typically, work described on drawing Sheets A0.1 thru A4.3 (10 sheets) and specifications including Invitation to Bids, Instructions to bidders, General Conditions, Supplementary General Conditions, Specification Divisions 1 thru 14, and MBE requirements represents General Work.

Complete drawings and specifications are included in bid package to assist General Contractor in including coordination costs of his work as it relates to other prime contracts (or major subcontracts) and to assist General Contractor in determining how other prime contractor(s) (or major subcontractors) work effects General Work construction. Only specifically noted work by General Contractor on E0.1, and E1.1, and Specifications on the drawings, is part of General Work.

ELECTRICAL WORK includes the work required to provide a complete electrical power distribution and lighting system in the new building including but not necessarily limited to the following:



Power transmission and service extension,  
Electrical lighting,  
    Under canopy lighting  
    Building lighting  
    Flag pole uplighting  
    Decorative light poles

Emergency lighting,  
Grounding,  
Raceways, outlets, etc. for power, lights, and other systems.  
Temporary facilities related to electrical work as specified in the "Temporary Facilities" section of these specifications.

Typically, described on drawings E0.1 and E1.1 (including Specifications on the drawings), and Invitation to Bids, Instructions to bidders, General Conditions, Supplementary General Conditions and Specification Division 1 and MBE requirements represent bases of Electrical Work.

Complete drawings and specifications are included in bid package to assist Electrical Contractor in including coordination costs of his work as it relates to other prime contracts (or major subcontracts) and to assist Electrical Contractor in determining how other Prime Contractor(s) (or major subcontractor work) work effects Electrical Work construction. Only specifically noted work by Electrical Contractor on Sheets A0.1, thru A4.3, and specifications Division 2 thru 14 is part of Electrical Work.

**DEFINITION OF THE EXTENT OF PRIME CONTRACT WORK:** The extent of the work of the Prime Contract is indicated in/on the Contract Documents. General names and terminology on the drawings and in the specifications may be used to control which subcontract(s) includes a specific element of required work, **but the final extent and demarcation of subcontract work is the sole responsibility of the Prime Contractor.**

Summary by References: Work of the major subcontract(s) can be summarized by reference to the major subcontract(s) drawing sheets, General Conditions, Supplementary Conditions, Specification sections, Addenda and Modifications to Contract Documents issued subsequent to the initial printing of this Project Manual, and including but not necessarily limited to printed material reference by any of these. It is recognized that the work of the Contract(s) is unavoidably affected or influenced by governing regulations, natural phenomenon, including weather conditions, and other forces outside the contract documents.

#### **CONTRACTORS USE OF PREMISES:**

General: During the entire construction period all contractors and subcontractors jointly shall have the use of the premises within the limited area of the building front for construction/renovation operations, including full use of the site within the construction limits described. The Owner will be continuously occupying the Building and shall not be denied access to their operations during their normal working hours.

Grading and site work on adjacent property shall be prohibited unless specifically note otherwise.

The site is defined as the area in front of the existing Town Hall including access to the second floor to install new upper windows..

Specific work activities as drawn and/or specified are allowed as required beyond the site lines; however, limit time to minimum required to perform work.

Use of the Site: Confine operations at the site to the areas permitted under the Contract. Portions of the site beyond areas on which work is required are not to be disturbed. Conform to site rules and regulations affecting the work while engaged in project construction.

Do not unreasonably encumber the site with materials of equipment. Confine stockpiling of materials

and location of storage sheds to minimum areas.

Lock automotive type vehicles such as passenger cars and trucks and other types of mechanized and motorized construction equipment, when parked and unattended, so as to prevent unauthorized use. Do not leave such vehicles or equipment unattended with the motor running or the ignition key in place.

Smoking or open fires will not be permitted within the building enclosure or on the premises as further specified in Division 2 work.

#### BUILDING USAGE AND SECURITY:

General: The Contract for General Work includes maintaining security and occupant safety during the construction process; however, all Prime Contractors are accountable for conducting their work in a safe, responsible manner that will provide a safe environment for all workers.

#### ALTERATIONS AND COORDINATION:

General: The Contract for General Work includes coordination of the entire work of the project, acting as the "Project Expeditor" including preparation of general coordination drawings, diagrams and schedules and control of site utilization from the beginning of construction activity through project closeout and warranty period.

MISCELLANEOUS PROVISIONS: Electrical Requirements: Except as otherwise indicated, comply with applicable provisions of the National Electric Code (NEC) and standards by the National Electrical Manufacturer's Association (NEMA) for electrical components of general work. Provide Underwriter's Laboratories listed and labeled products where applicable.

#### PART 2 - PRODUCTS (Not Applicable).

## **SCHEDULE OF DRAWINGS**

### **Architectural**

A0.1	COVERSHEET, BUILDING CODE SUMMARY, INDEX OF DRAWINGS, VICINITY MAP
A1.1	SITE PLAN & SITE NOTES
A2.1	DEMOLITION FLOOR PLANS
A2.2	DEMOLITION ELEVATIONS
A3.1	NEW FLOOR PLAN
A3.2	REFLECTED CEILING PLAN< SECTION & WINDOW ELEVATION
A4.1	WALL SECTIONS
A4.2	WALL SECTIONS
A4.3	WALL SECTIONS & DETAILS

### **Electrical**

E0.1	ELECTRICAL SCHEDULES
E1.1	ELECTRICALSITE PLAN

End of SECTION 01011

## SECTION 01020 - ALLOWANCES

### PART 1 - GENERAL

#### RELATED DOCUMENTS

Drawings and general provisions of Contract, including General and Supplementary Conditions and other Division-1 Specification Sections, apply to this Section.

#### SUMMARY

This Section specifies administrative and procedural requirements governing handling and processing allowances.

Selected materials and equipment, and in some cases, their installation are shown and specified in the Contract Documents by allowances. Allowances have been established in lieu of additional requirements and to defer selection of actual materials and equipment to a later date when additional information is available for evaluation. Additional requirements, if necessary, will be issued by Change Order.

Types of allowances required include the following:

- Lump sum allowances.
- Unit-cost allowances.
- Contingency allowance.
- Inspection and testing allowances.

Procedures for submitting and handling Change Orders are included in Section "Change Order Procedures."

Use of allowances for inspection and testing agencies is included in Section "Quality Control Services."

#### SELECTION AND PURCHASE

At the earliest feasible date after Contract award, advise the Architect of the date when the final selection and purchase of each product or system described by an allowance must be completed in order to avoid delay in performance of the Work.

When requested by the Architect, obtain proposals for each allowance for use in making final selections; include recommendations that are relevant to performance of the Work.

Purchase products and systems as selected by the Architect from the designated supplier.

#### SUBMITTALS

Submit proposals for purchase of products or systems included in allowances, in the form specified for Change Orders.

Submit invoices or delivery slips to indicate actual quantities of materials delivered to the site for use in fulfillment of each allowance.

### CONTINGENCY ALLOWANCES

Use the contingency allowance only as directed for the Owner's purposes, and only by Change Orders which designate amounts to be charged to the allowance.

The Contractor's related costs for products or equipment ordered by the Owner under the contingency allowance, including delivery, installation, taxes, insurance, equipment rental, and similar costs are not part of the Contract Sum.

Change Orders authorizing use of funds from the contingency allowance will include the Contractor's related costs and reasonable overhead and profit margins (see Supplementary General Conditions).

At Project closeout, credit unused amounts remaining in the contingency allowance to Owner by Change Order.

### INSPECTION AND TESTING ALLOWANCES

Inspection and testing allowance includes the cost of engaging the inspection or testing agencies and cost for reporting the results of unanticipated below grade soil conditions only. General Contractor shall include in his regular job costs, the testing required for soil compaction, concrete mix and steel connections as specified in those sections of these specifications.

At Project closeout, credit unused amounts remaining in the inspection and testing allowance to Owner by Change Order.

### UNUSED MATERIALS

Return unused materials to the manufacturer or supplier for credit to the Owner, after installation has been completed and accepted.

Where it is not economically feasible to return unused material for credit and when requested by the Architect, prepare unused material for the Owner's storage, and deliver to the Owner's storage space as directed. Otherwise, disposal of excess material is the Contractor's responsibility.

### PART 2 - PRODUCTS (Not Applicable)

### PART 3 - EXECUTION

#### INSPECTION

Inspect products covered by an allowance promptly upon delivery for damage or defects.

#### PREPARATION

Coordinate materials and their installation for each allowance with related materials and installations to ensure that each allowance item is completely integrated and interfaced with related construction activities.

## **SCHEDULE OF ALLOWANCES:**

**NOTE: ALL ALLOWANCES LISTED BELOW SHALL BE INCLUDED  
IN THE BASE BID.**

### **GENERAL CONTRACT:**

**Contingency Allowance**

**\$ 10,000.00**

End of SECTION 01020

## SECTION 01026 - UNIT PRICES

### PART 1 - GENERAL

#### RELATED DOCUMENTS

Drawings and general provisions of Contract, including General and Supplementary Conditions and other Division-1 Specification Sections, apply to this Section.

#### SUMMARY

This Section specifies administrative and procedural requirements for unit prices.

A unit price is an amount proposed by Bidders and stated on the Bid Form as a price per unit of measurement for materials or services that will be added to or deducted from the Contract Sum by Change Order in the event the estimated quantities of Work required by the Contract Documents are increased or decreased.

Unit prices include all necessary material, overhead, profit and applicable taxes.

Refer to individual Specification Sections for construction activities requiring the establishment of unit prices. Methods of measurement and payment for unit prices are specified in those Sections.

Schedule: A "Unit Price" section is included as part of the "Form of Proposal" and as applicable to each prime contract **must be completed as part of the bid**. Specification Sections referenced in the Schedule contain requirements for materials and methods described under each unit price.

The Owner reserves the right to reject the Contractor's measurement of work-in-place that involves use of established unit prices, and to have this Work measured by an independent surveyor acceptable to the Contractor at the Owner's expense.

### PART 3 - EXECUTION (NOT APPLICABLE).

## **UNIT PRICE SCHEDULE**

Unit prices are for complete work and no profit or overhead shall be added or deducted when applying unit prices. No work described on the drawings or specifications is to be bid as a unit price. Unit price costs will be used only for additional work the owner may want to include in the work by change order.

**NO UNIT PRICE COSTS ARE REQUESTED FOR THIS PROJECT.**

End of SECTION 01026

## SECTION 01027 - APPLICATIONS FOR PAYMENT

### PART 1 - GENERAL

#### RELATED DOCUMENTS

Drawings and general provisions of Contract, including General and Supplementary Conditions and other Division-1 Specification Sections, apply to this Section.

#### SUMMARY

This Section specifies administrative and procedural requirements governing the General Contractors Applications for Payment.

This Section specifies administrative and procedural requirements governing each Prime Contractor's Applications for Payment.

Coordinate the Schedule of Values and Applications for Payment with the General Contractor's Construction Schedule, List of Subcontracts, and Submittal Schedule.

The Construction Schedule and Submittal Schedule are included in Section "Submittals".

#### SCHEDULE OF VALUES

Coordinate preparation of the Schedule of Values with preparation of the Construction Schedule.

The General Contractor shall coordinate preparation of its Schedule of Values for its part of the Work with preparation of the Construction Schedule.

Correlate line items in the Schedule of Values with other required administrative schedules and forms, including:

- General Contractor's construction schedule (as approved by all subcontractors).
- Application for Payment form.
- List of subcontractors.
- Schedule of allowances.
- List of products.
- List of principal suppliers and fabricators.

Submit the Schedule of Values to the Architect at the earliest feasible date, but in no case later than 7 days before the date scheduled for submittal of the initial Application for Payment.

Format and Content: Use the Project Manual Table of Contents as a guide to establish the format for the Schedule of Values.

Identification: Include the following Project identification on the Schedule of Values:

- Project name and location.
- Name of the Architect.
- Prime Contractor's name and address.
- Date of submittal.



Arrange the Schedule of Values in a tabular form with separate columns to indicate the following for each item listed:

- Generic name.
- Related Specification Section.
- Dollar value.
- Percentage of Contract Sum to the nearest one-tenth percent, adjusted to total 100 percent.

Provide a breakdown of the Contract Sum in sufficient detail to facilitate continued evaluation of Applications for Payment and progress reports. Break principal subcontract amounts down into several line items including cost of major equipment and labor costs.

Round amounts off to the nearest whole dollar; the total shall equal the Contract Sum.

Margins of Cost: Temporary facilities and other major cost items that are not direct cost of actual work-in-place shall be shown as separate line items in the Schedule of Values as general overhead expense.

### APPLICATIONS FOR PAYMENT

Each Application for Payment shall be consistent with previous applications and payments as certified by the Architect and paid for by the Owner.

The initial Application for Payment, the Application for Payment at time of Substantial Completion, and the final Application for Payment involve additional requirements.

Payment Application Times (Unless listed otherwise in the Owner-Contractor Agreement): The date for each progress payment is the 15th day of each month. The period of construction Work covered by each Application for Payment is the period ending 15 days prior to the date for each progress payment and starting the day following the end of the preceding period.

Payment Application Forms: Use AIA Document G 702 and Continuation Sheets G 703 as the form for Application for Payment.

Application Preparation: Complete every entry on the form, including notarization and execution by person authorized to sign legal documents on behalf of the Owner. Incomplete applications will be returned without action.

Entries shall match data on the Schedule of Values and Construction Schedule. Use updated schedules if revisions have been made.

Include amounts of Change Orders and Construction Change Directives issued prior to the last day of the construction period covered by the application.

Each monthly payment application shall include an attachment listing of all sales tax paid on materials that are billed on the application. **(See SALES TAX REPORT attached at the end of this Section 01027.)** Listing shall breakdown, per vendor, the tax amount paid to each state and each county.

Payments requested for stored materials or major pieces of equipment will be paid from invoice costs documented with applications. Submit "Amendment to Protect Stored Materials" **(sample attached at the end of this Section 01027)** on Bonding Company letterhead with application for payment.

Transmittal: Submit 4 executed copies of each Application for Payment to the Architect by means ensuring receipt within 24 hours; all copies shall be complete.

Transmit each copy with a transmittal form listing attachments, and recording appropriate information related to the application in a manner acceptable to the Architect.

Waivers of Mechanics Lien: With Final Application for Payment, submit waivers of mechanics lien from every entity who may lawfully be entitled to file a mechanics lien arising out of the Contract, and related to the Work covered by the payment.

Waiver Forms: Submit waivers of lien on forms, and executed in a manner, acceptable to Owner.

Initial Application for Payment: Administrative actions and submittals that must precede or coincide with submittal of the first Application for Payment include the following:

- List of subcontractors,
- List of principal suppliers and fabricators,
- Schedule of Values,
- General Contractor's Construction Schedule (preliminary if not final),
- List of Subcontractors, Staff assignments,
- List of Major suppliers
- Initial progress report,
- Copies of authorizations and licenses from governing authorities for performance of the Work,
- Certificates of insurance and insurance policies (Part of Owner-Contractor Agreement documents),
- Performance and payment bonds (Part of Owner-Contractor Agreement documents), and
- Data needed to acquire Owner's insurance (Part of Owner-Contractor Agreement documents).

Application for Payment at Substantial Completion: Following issuance of the Certificate of Substantial Completion, submit an Application for Payment; this application shall reflect any Certificates of Partial Substantial Completion issued previously for Owner occupancy of designated portions of the Work.

Administrative actions and submittals that shall proceed or coincide with this application include:

- Occupancy permits and similar approvals,
- Warranties (guarantees) and maintenance agreements,
- Maintenance instructions,
- Changeover information related to Owner's occupancy, use, operation and maintenance,
- Final cleaning,
- Application for reduction of retainage, and consent of surety,
- Advice on shifting insurance coverages,
- List of incomplete Work, recognized as exceptions to Architect's Certificate of Substantial Completion,

Final Payment Application: Administrative actions and submittals that must precede or coincide with submittal of the final payment Application for Payment include the following:

- Completion of Project closeout requirements,
- Completion of items specified for completion after Substantial Completion,
- Submit signed off completed Punch List items to the Architect
- Assurance that unsettled claims will be settled,
- Assurance that Work not complete and accepted will be completed without undue delay,
- Transmittal of required Project construction records to Owner,
- Proof that taxes, fees and similar obligations have been paid,
- Removal of temporary facilities and services, and
- Removal of surplus materials, rubbish and similar elements.

PART 2 - PRODUCTS (Not Applicable)

PART 3 - EXECUTION (Not Applicable)

End of SECTION 01027

## **AMENDMENT TO PROTECT STORED MATERIALS**

**Below is the outline form letter noted in Division 1 of the specifications required by the Architect prior to recommending to the Owner payments for materials stored off site.**

### **COMPANY LETTER HEAD**

#### **CURRENT DATE**

Ramsay, Burgin, Smith, Architects, Inc.  
225 North Main Street, Suite 501  
Salisbury, North Carolina 28144

Subject: Granite Quarry Town Hall Façade Improvements  
Granite Quarry, NC

Dear Sirs:

This letter represents consent from **LIST NAME OF BONDING COMPANY** allowing Ramsay, Burgin, Smith, Architects, Inc. to release payment to **LIST NAME OF CONTRACTOR** all materials claimed on applications for payment as stored materials for Granite Quarry Town Hall Façade Improvements, Granite Quarry, NC. This applies to materials whether stored on or off site.

The bonding company does not require the Owner or Architect to inventory or monitor inventory for said stored materials.

The bonding company also acknowledge that in the event of contractor default, bond coverage includes all costs and expenses for recovery or repurchase or these paid stored materials as well as all normal bond obligations and responsibilities applicable toward project completion.

Very truly yours,

**AUTHORIZED SIGNATURE**

**SIGNEE'S TITLE**

**SIGNEE'S COMPANY NAME**

**XXX/xx**

**APPLICABLE OR DESIRED COPIES**

Attachment: Power of Attorney statement

**XXX/xx**







## SECTION 01030 - ALTERNATES

### PART 1 - GENERAL

#### RELATED DOCUMENTS

DRAWINGS, GENERAL CONDITIONS AND SUPPLEMENTARY GENERAL CONDITIONS AND OTHER DIVISION-1 SPECIFICATION SECTIONS, APPLY TO THIS SECTION.

#### SUMMARY

This Section specifies administrative and procedural requirements for Alternates.

Definition: An Alternate is an amount proposed by Bidders and stated on the Bid Form for certain construction activities defined in the Bidding Requirements that may be added to or deducted from Base Bid amount if the Owner decides to accept a corresponding change in either the amount of construction to be completed, or in the products, materials, equipment, systems or installation methods described in Contract Documents.

Coordination: Coordinate related Work and modify or adjust adjacent Work as necessary to ensure that Work affected by each accepted Alternate is complete and fully integrated into the project.

Notification: Immediately following the award of the Contract, prepare and distribute to each party involved, notification of the status of each Alternate. Indicate whether Alternates have been accepted, rejected or deferred for consideration at a later date. Include a complete description of negotiated modifications to Alternates.

Schedule: A "Schedule of Alternates" is included at the end of this Section. Specification Sections referenced in the Schedule contain requirements for materials and methods necessary to achieve the Work described under each Alternate.

Include as part of each Alternate, miscellaneous devices, accessory objects and similar items incidental to or required for a complete installation whether or not mentioned as part of the Alternate.

### PART 2 - PRODUCTS

### PART 3 - EXECUTION

## **SCHEDULE OF ALTERNATES:**

**NOTE: PRICES FOR ALL ALTERNATES LISTED BELOW ARE TO BE INCLUDED ON THE CONTRACTOR'S FORM OF PROPOSAL.**

Each alternate price listing in this proposal shall cover all costs required for this particular part of the work, complete and in place, including all changes, alterations or modifications to surrounding work required to accommodate the substitution, addition, deletion or other change.

The Architect reserves the right to recommend to the Owner the acceptance or rejection of any or all alternates. The Owner reserves the right to accept or reject any or all such recommendations. The Owner further reserves the right to accept or reject alternates in any order they preferred without regard to whether or not their selected order effects bid outcome.

Should any of the alternates as described in the specifications be accepted, the amount written on the **“Form of Proposal”** shall be the amount to "add to" or "deduct from" the Base Bid. Signify the option intended by the words "add" or "deduct" in front of the written figures and the like "plus" or "minus" signs in front of the numerals.

**NO ALTERNATES WERE REQUESTED FOR THIS PROJECT**

END OF SECTION 01030



## SECTION 01041 - PROJECT COORDINATION - SINGLE PRIME CONTRACTS

### PART 1 - GENERAL

#### RELATED DOCUMENTS:

Drawings and general provisions of Contract, including General and Supplementary Conditions and other Division-1 Specification sections, apply to work of this section.

#### DESCRIPTION OF WORK:

Maximum administrative and supervisory requirements necessary for coordination of work on the project to be fulfilled collectively by the prime contractors include but are not necessarily limited to the following:

- Coordination and meetings,
- Administrative and supervisory personnel,
- Surveys and records or reports,
- Special reports,
- General installation provisions,
- Cleaning and protection, and
- Conservation and salvage.

These coordination requirements must be participated in by the General Contractor and each major subcontractor (plumbing, HVAC, electrical, and sprinkler), where applicable, even though certain items of work may be assigned to a specific prime contractor, and even though the Contractor for General Work may be assigned certain general work for overall coordination purposes.

#### COORDINATION AND MEETINGS:

Coordination Drawings: Each subcontractor shall prepare their related coordination drawings where work by separate entities requires fabrication off-site of products and materials that must accurately interface. Coordination drawings shall indicate how work shown by separate shop drawings will interface and shall indicate installation sequence. Comply with all requirements of the "Submittals" section.

Monthly Coordination Meetings: The Contractor for General Work shall schedule and hold monthly general project coordination meetings at regularly scheduled times that are convenient for the attendance of other major subcontractors and other parties involved. Required attendance includes the General Contractor and each subcontractor and every other entity identified by any contractor or subcontractor as being currently involved in the coordination or planning for the work of the entire project. Conduct meetings in a manner that resolve coordination problems. The Contractor for General Work shall preside at each meeting, and shall record meeting results. The Contractor for General Work shall distribute copies of the meeting result to everyone in attendance and to others affected by the decisions and actions resulting from each meeting.

#### ADMINISTRATIVE/SUPERVISORY PERSONNEL:

General: In addition to a General Superintendent and other administrative and supervisory personnel required for performance of the work, each major subcontractor shall provide specific coordinating personnel as reasonably required for interfacing work with other work of total project.

**Project Coordinator:** The Contractor for General Work shall provide a Project Coordinator, who is experienced in administration and supervision of building construction, including plumbing, mechanical, electrical, and sprinkler work. This Project Coordinator is hereby authorized to act as the general coordinator of interfaces between the work. For the purpose of this provision, "interface" is defined to include scheduling and sequencing of work, sharing of access to work spaces, installations, protection of each other's work, cutting and patching, tolerances, cleaning, selections for compatibility, preparation of coordination drawings, inspection, tests and temporary facilities and services.

**Submittals of Staff Names, Duties:** Within 15 days of Notice to Proceed the General Contractor and each major subcontractor shall submit a listing of Contractor's principal staff assignments and consultants, naming persons and listing their addresses and telephone numbers.

#### **SURVEYS AND RECORDS/REPORTS:**

**General:** Working from lines and levels established by the property survey, the Contractor for General Work shall establish and maintain bench marks and other dependable markers. These bench marks and markers are established to set lines and levels for work at each story of construction and elsewhere as needed to properly locate each element of the project. Each major subcontractor shall calculate and measure required dimensions as shown, within recognized tolerances. Drawings shall not be scaled to determine dimensions. Advise entities performing work, of marked lines and levels provided for their use.

**Survey Procedures:** Before proceeding with the layout of actual work, each major subcontractor shall verify the layout information shown on the drawings, in relation to the property area and existing bench marks. As the work proceeds, check every major element for line, level and plumb. Each contractor and subcontractor shall report (to the General Contractor and Architect) and record deviations which are accepted and/or not corrected, on record drawings.

#### **LIMITATIONS ON USE OF THE SITE:**

**General:** Limitations on site usage as well as specific requirements that impact utilization are indicated on the drawings and by other contract documents. In addition to these limitations and requirements, the Contractor for General Work shall administer allocation of available space equitably among the subcontractors and other entities needing access and space, so as to produce the best overall efficiency in performance of the total work of the project. Each contractor and subcontractor shall schedule deliveries so as to minimize space and time requirements for storage of materials and equipment on site.

#### **SPECIAL REPORTS:**

**General:** Submit special reports directly to the Architect and other entities affected by the occurrence.

**Reporting Unusual Events:** When an event of an unusual and significant nature occurs at the site, the Contractor for General Work shall prepare and submit a special report. The report shall list chain of events, persons participating, the response by the contractor's personnel and by the personnel of the other subcontractors, an evaluation of the results or effects, and similar pertinent information. It is the responsibility of each contractor and subcontractor to advise the Architect in advance date, when such events are known or predictable.

**Reporting Accident:** Each contractor and subcontractor shall prepare and submit reports of significant accidents, at site and anywhere else work is in progress. Record and document data and actions. For this purpose, a significant accident is defined to include events where personal injury is sustained, or property loss of substance is sustained, or where the event posed a significant threat of loss or personal injury.

### PART 3 - EXECUTION

#### GENERAL INSTALLATION PROVISIONS:

**Installer's Inspection of Conditions:** The contractor (General and/or Subcontractor) involved require the Installer of each major unit of work to inspect the substrate to receive the work and the conditions under which the work is to be performed. The Installer shall report all unsatisfactory conditions in writing to the General Contractor and Architect. Do not proceed with the work until unsatisfactory conditions have been corrected in a manner acceptable to the Installer.

Manufacturer's Instructions: Where installations include manufactured products, comply with the manufacturer's applicable instructions and recommendations for installation, to the extent that these instructions and recommendations are more explicit or more stringent than requirements indicated in the contract documents.

Inspect each item of materials or equipment immediately prior to installation. Reject damaged and defective items.

Provide attachment and connection devices and methods for securing work properly. Secure work true to line and level, and within recognized tolerances. Allow expansion and building movement. Provide uniform joint width in exposed work. Arrange joints in exposed work to obtain the best visual effect. Refer questionable visual-effect choices to the Architect/Engineer for final decision.

Recheck measurements and dimensions of the work, as an integral step of starting each installation.

Install each unit of work during weather conditions and project status which will ensure the best possible results in coordination with the entire work. Isolate each unit of work from incompatible work as necessary to prevent deterioration.

Enclosure of the Work: Each prime contractor shall coordinate the closing-in of the work with required inspections and tests, so as to minimize the necessity of uncovering work for that purpose.

Mounting Heights: Where mounting heights are not indicated, mount individual units of work at industry recognized standard mounting heights for the particular application indicated. Refer questionable mounting height choices to the Architect/Engineer for final decision.

#### CLEANING AND PROTECTION:

General: During handling and installation of work at the project site, each prime contractor shall clean and protect work in progress and adjoining work in the basis of continuous maintenance. Apply protective covering on installed work where it is required to ensure freedom from damage or deterioration at the time of substantial completion.

Clean and perform maintenance on installed work as frequently as necessary through the remainder of the construction period. Adjust and lubricate operable components to ensure operability without damaging effects.

Limiting Exposure of Work: To the extent possible through reasonable control and protection methods, each prime contractor shall supervise performance of the work in such a manner and by such means which will ensure that none of the work, whether completed or in progress, will be subjected to harmful, dangerous, damaging or otherwise deleterious exposure during the construction period.

End of SECTION 01041

## SECTION 01045 - CUTTING AND PATCHING

### PART 1 - GENERAL

#### RELATED DOCUMENTS

Drawings and general provisions of Contract, including General and Supplementary Conditions and other Division-1 Specification Sections, apply to this Section.

#### SUMMARY

This Section specifies administrative and procedural requirements for cutting and patching.

Refer to other Sections for specific requirements and limitations applicable to cutting and patching individual parts of the Work.

Requirements of this Section apply to mechanical and electrical installations. Refer to Division-15 and Division-16 Sections for other requirements and limitations applicable to cutting and patching mechanical and electrical installations.

#### QUALITY ASSURANCE

Requirements for Structural Work: Do not cut and patch structural elements in a manner that would reduce their load-carrying capacity or load-deflection ratio.

Obtain approval of the cutting and patching proposal before cutting and patching the following structural elements:

- Foundation construction.
- Bearing and retaining walls.
- Structural concrete.
- Structural steel.
- Lintels.
- Structural decking.
- Miscellaneous structural metals.
- Equipment supports.
- Piping, ductwork, vessels and equipment.

Operational and Safety Limitations: Do not cut and patch operating elements or safety related components in a manner that would result in reducing their capacity to perform as intended, or result in increased maintenance, or decreased operational life or safety.

Visual Requirements: Do not cut and patch construction exposed on the exterior or in occupied spaces, in a manner that would, in the Architect's opinion, reduce the building's aesthetic qualities, or result in visual evidence of cutting and patching. Remove and replace Work cut and patched in a visually unsatisfactory manner.

If possible retain the original installer or fabricator to cut and patch the following categories of exposed Work, or if it is not possible to engage the original installer or fabricator, engage another recognized experienced and specialized firm:

- Roofing and Roof Flashing
- HVAC enclosures, cabinets or covers.
- Electrical panels and motor controls

## PART 2 - PRODUCTS

### MATERIALS

Use materials that are identical to existing materials.

## PART 3 - EXECUTION

### INSPECTION

Before cutting existing surfaces, examine surfaces to be cut and patched and conditions under which cutting and patching is to be performed. Take corrective action before proceeding, if unsafe or unsatisfactory conditions are encountered.

Before proceeding, meet at the site with parties involved in cutting and patching, including mechanical and electrical trades. Review areas of potential interference and conflict. Coordinate procedures and resolve potential conflicts before proceeding.

### PREPARATION

Temporary Support: Provide temporary support of Work to be cut.

### PERFORMANCE

General: Employ skilled workmen to perform cutting and patching. Proceed with cutting and patching at the earliest feasible time and complete without delay.

Cut existing construction to provide for installation of other components or performance of other construction activities and the subsequent fitting and patching required to restore surfaces to their original condition.

In general, where cutting is required use hand or small power tools designed for sawing or grinding, not hammering and chopping. Cut holes and slots neatly to size required with minimum disturbance of adjacent surfaces. Temporarily cover openings when not in use.

To avoid marring existing finished surfaces, cut or drill from the exposed or finished side into concealed surfaces.

Cut through concrete and masonry using a cutting machine such as a carborundum saw or diamond core drill.

Comply with requirements of applicable Sections of Division-2 where cutting and patching requires excavating and backfilling.

By-pass utility services such as pipe or conduit, before cutting, where services are shown or required to be removed, relocated or abandoned. Cut-off pipe or conduit in walls or partitions to be removed. Cap, valve or plug and seal the remaining portion of pipe or conduit to prevent entrance of moisture or other foreign matter after by-passing and cutting.

Patching: Patch with durable seams that are as invisible as possible. Comply with specified tolerances.

Restore exposed finishes of patched areas and extend finish restoration into retained adjoining construction in a manner that will eliminate evidence of patching and refinishing.

### CLEANING

Thoroughly clean areas and spaces where cutting and patching is performed or used as access. Remove completely paint, mortar, oils, putty and items of similar nature. Thoroughly clean piping, conduit and similar features before painting or other finishing is applied. Restore damaged pipe covering to its original condition.

End of SECTION 01045

## SECTION 01095 - REFERENCE STANDARDS AND DEFINITIONS

### PART 1 - GENERAL

#### RELATED DOCUMENTS

Drawings and general provisions of Contract, including General and Supplementary Conditions and other Division 1 Specification Sections, apply to this Section.

#### DEFINITIONS

General: Basic Contract definitions are included in the General Conditions.

Indicated: The term "indicated" refers to graphic representations, notes, or schedules on the Drawings, other paragraphs or schedules in the Specifications, and similar requirements in the Contract Documents. Where terms such as "shown," "noted," "scheduled," and "specified" are used, it is to help the reader locate the reference; no limitation on location is intended.

Directed: Terms such as "directed," "requested," "authorized," "selected," "approved," "required," and "permitted" mean "directed by the Architect," "requested by the Architect," and similar phrases.

Approve: The term "approved," where used in conjunction with the Architect's action on the Contractor's submittals, applications, and requests, is limited to the Architect's duties and responsibilities as stated in General and Supplementary Conditions.

Regulation: The term "Regulations" includes laws, ordinances, statutes, and lawful orders issued by authorities having jurisdiction, as well as rules, conventions, and agreements within the construction industry that control performance of the Work.

Furnish: The term "furnish" is used to mean "supply and deliver to the Project site, ready for unloading, unpacking, assembly, installation, and similar operations."

Install: The term "install" is used to describe operations at project site including the actual "unloading, unpacking, assembly, erection, placing, anchoring, applying, working to dimension, finishing, curing, protecting, cleaning, and similar operations."

Provide: The term "provide" means "to furnish and install, complete and ready for the intended use."

Installer: An "Installer" is the Contractor or an entity engaged by the Contractor, either as an employee, subcontractor, or sub-subcontractor, for performance of a particular construction activity, including installation, erection, application, and similar operations. Installers are required to be experienced in the operations they are engaged to perform.

The term "experienced" when used with the term "Installer" means having a minimum of 5 previous Projects similar in size and scope to this Project, being familiar with the precautions required, and having complied with requirements of the authority having jurisdiction.

Assignment of Specialists: Certain Sections of the Specifications require that specific construction activities shall be performed by specialists who are recognized experts in the operations to be performed. The specialists must be engaged for those activities, and assignments are requirements over which the Contractor has no choice or option. Nevertheless, the ultimate responsibility for fulfilling Contract requirements remains with the Contractor.

This requirement shall not be interpreted to conflict with enforcement of building codes and similar regulations governing the Work. It is also not intended to interfere with local trade union jurisdictional settlements and similar conventions.

Testing Laboratories: A "testing laboratory" is an independent entity engaged to perform specific inspections or tests, either at the Project Site or elsewhere, and to report on and, if required, to interpret results of those inspections or tests.

## SPECIFICATION FORMAT AND CONTENT EXPLANATION

Specification Format: These Specifications are organized into Divisions and Sections based on the Construction Specifications Institute's 16-Division format and MASTERFORMAT numbering system.

Specification Content: This Specification uses certain conventions in the use of language and the intended meaning of certain terms, words, and phrases when used in particular situations or circumstances. These conventions are explained as follows:

Abbreviated Language: Language used in Specifications and other Contract Documents is the abbreviated type. Implied words and meanings will be appropriately interpreted. Singular words will be interpreted as plural and plural words interpreted as singular where applicable and the full context of the Contract Documents so indicates.

Imperative and streamlined language is used generally in the Specifications. Requirements expressed in the imperative mood are to be performed by the Contractor. At certain locations in the text, for clarity, subjective language is used to describe responsibilities that must be fulfilled indirectly by the Contractor, or by others when so noted.

## INDUSTRY STANDARDS

Applicability of Standards: Except where the Contract Documents include more stringent requirements, applicable construction industry standards have the same force and effect as if bound or copied directly into the Contract Documents. Such standards are made a part of the Contract Documents by reference.

Publication Dates: Where the date of issue of a referenced standard is not specified, comply with the standard in effect as of date of Contract Documents.

Conflicting Requirements: Where compliance with two or more standards is specified, and the standards establish different or conflicting requirements for minimum quantities or quality levels, refer requirements that are different, but apparently equal, and uncertainties to the Architect for a decision before proceeding.

Minimum Quantity or Quality Levels: The quantity or quality level shown or specified shall be the minimum provided or performed. The actual installation may comply exactly with the minimum quantity or quality specified, or it may exceed the minimum within reasonable limits. In complying with these requirements, indicated numeric values are minimum or maximum, as appropriate for the context of the requirements. Refer uncertainties to the Architect for a decision before proceeding.

Copies of Standards: Each entity engaged in construction on the Project is required to be familiar with industry standards applicable to that entity's construction activity. Copies of applicable standards are not bound with the Contract Documents.

Where copies of standards are needed for performance of a required construction activity, the Contractor shall obtain copies directly from the publication source.

Abbreviations and Names: Trade association names and titles of general standards are frequently abbreviated. Where such acronyms or abbreviations are used in the Specifications or other Contract Documents, they mean the recognized name of the trade association, standards generating organization, authority having jurisdiction, or other entity applicable to the context of the text provision. Refer to the "Encyclopedia of Associations," published by Gale Research Co., available in most libraries.

#### GOVERNING REGULATIONS/AUTHORITIES

The Architect has contacted authorities having jurisdiction where necessary to obtain information necessary for preparation of Contract Documents; that information may or may not be of significance to the Contractor. Contact authorities having jurisdiction directly for information and decisions having a bearing on the Work.

#### SUBMITTALS

Permits, Licenses, and Certificates: For the Owner's records, submit copies of permits, licenses, certifications, inspection reports, releases, jurisdictional settlements, notices, receipts for fee payments, judgments, and similar documents, correspondence, and records established in conjunction with compliance with standards and regulations bearing upon performance of the Work.

#### PART 2 - PRODUCTS (NOT APPLICABLE)

#### PART 3 - EXECUTION (NOT APPLICABLE)

End of SECTION 01095



## SECTION 01200 - PROJECT MEETINGS

### PART 1 - GENERAL

#### RELATED DOCUMENTS

Drawings and general provisions of Contract, including General and Supplementary Conditions and other Division-1 Specification Sections, apply to this Section.

#### SUMMARY

This Section specifies administrative and procedural requirements for project meetings including but not limited to:

- Pre-Construction Conference.
- Coordination Meetings.
- Progress Meetings.

Construction schedules are specified in another Division-1 Section.

#### PRE-CONSTRUCTION CONFERENCE

Schedule a pre-construction conference and organizational meeting at the Project site or other convenient location no later than 15 days after execution of the Agreement and prior to commencement of construction activities. Conduct the meeting to review responsibilities and personnel assignments.

Attendees: The Owner, Architect and their consultants, the Prime Contractor(s) and their superintendent(s), major subcontractors, manufacturers, suppliers and other concerned parties shall each be represented at the conference by persons familiar with and authorized to conclude matters relating to the Work.

Agenda: Discuss items of significance that could affect progress including such topics as:

- Tentative construction schedule,
- Critical Work sequencing,
- Designation of responsible personnel,
- Procedures for processing field decisions and Change Orders,
- Procedures for processing Applications for Payment,
- Submittal of Shop Drawings, Product Data and Samples,
- Preparation of record documents,
- Use of the premises,
- Office, Work and storage areas,
- Equipment deliveries and priorities,
- Safety procedures,
- First aid,
- Security,
- Housekeeping, and
- Working hours.

#### COORDINATION MEETINGS

Conduct Project coordination meetings at regularly scheduled times convenient for all parties involved. Project coordination meetings are in addition to specific meetings held for other purposes, such as regular progress meetings and special pre-installation meetings.

Request representation at each meeting by every party currently involved in coordination or planning for the construction activities involved.

Record meeting results and distribute copies to everyone in attendance and to others affected by decisions or actions resulting from each meeting.

### PROGRESS MEETINGS

Conduct progress meetings at the Project site at regularly scheduled intervals. Notify the Owner and Architect of scheduled meeting dates. Coordinate dates of meetings with preparation of the payment request.

Attendees: In addition to representatives of the Owner, Architect, and Prime Contractor(s), each subcontractor, supplier or other entity concerned with current progress or involved in planning, coordination or performance of future activities shall be represented at these meetings by persons familiar with the Project and authorized to conclude matters relating to progress.

Agenda: Review and correct or approve minutes of the previous progress meeting. Review other items of significance that could affect progress. Include topics for discussion as appropriate to the current status of the Project.

Contractor's Construction Schedule: Review progress since the last meeting. Determine where each activity is in relation to the Contractor's Construction Schedule, whether on time or ahead or behind schedule. Determine how construction behind schedule will be expedited; secure commitments from parties involved to do so. Discuss whether schedule revisions are required to ensure that current and subsequent activities will be completed within the Contract Time.

Review the present and future needs of each entity present, including such items as:

- Interface requirements,
- Time,
- Sequences,
- Deliveries,
- Off-site fabrication problems,
- Access,
- Site utilization,
- Temporary facilities and services,
- Hours of Work,
- Hazards and risks,
- Housekeeping,
- Quality and Work standards,
- Change Orders, and
- Documentation of information for payment requests.

Reporting: No later than 3 days after each progress meeting date, the General Contractor shall distribute copies of minutes of the meeting to each party present and to other parties who should have been present. Include a brief summary, in narrative form, of progress since the previous meeting and report.

Schedule Updating: Revise the construction schedule after each progress meeting where revisions to the schedule have been made or recognized. Issue the revised schedule concurrently with the report of each meeting.

End of SECTION 01200

## SECTION 01300 - SUBMITTALS

### PART 1 - GENERAL

#### RELATED DOCUMENTS

Drawings and general provisions of Contract, including General and Supplementary Conditions and other Division-1 Specification Sections, apply to this Section.

#### SUMMARY

This Section specifies administrative and procedural requirements for submittals required for performance of the Work, including:

Contractor's construction schedule.

Shop Drawings.

*Note: Contractors/Subs shall not assume CAD files will be released from Architect or Engineers for Shop Drawing production. PDF ONLY will be available for this use.*

Product Data.

Samples.

Administrative Submittals: Refer to other Division-1 Sections and other Contract Documents for requirements for administrative submittals. Such submittals include, but are not limited to:

Permits.

Applications for payment.

Performance and payment bonds.

Insurance certificates.

List of Subcontractors.

The Schedule of Values submittal is included in Section "Applications for Payment."

Inspection and test reports are included in Section "Quality Control Services."

#### SUBMITTAL PROCEDURES

Coordination: Coordinate preparation and processing of submittals with performance of construction activities. Transmit each submittal sufficiently in advance of performance of related construction activities to avoid delay.

Coordinate each submittal with fabrication, purchasing, testing, delivery, other submittals and related activities that require sequential activity.

Coordinate transmittal of different types of submittals for related elements of the Work so processing will not be delayed by the need to review submittals concurrently for coordination.

The Architect reserves the right to withhold action on a submittal requiring coordination with other submittals until related submittals are received.

Processing: Allow sufficient review time so that installation will not be delayed as a result of the time required to process submittals, including time for resubmittals.

Allow two weeks for initial review. Allow additional time if processing must be delayed to permit coordination with subsequent submittals. The Architect will promptly advise the Contractor when a submittal being processed must be delayed for coordination.

If an intermediate submittal is necessary, process the same as the initial submittal.

Allow two weeks for reprocessing each submittal.

No extension of Contract Time will be authorized because of failure to transmit submittals to the Architect sufficiently in advance of the Work to permit processing.

**Submittal Preparation:** Place a permanent label or title block on each submittal for identification. Indicate the name of the entity that prepared each submittal on the label or title block.

Provide a space approximately 4" x 5" on the label or beside the title block on Shop Drawings to record the Contractor's review and approval markings and the action taken.

Note that Contractors are responsible for REVIEW of all submittals/shop drawings/samples/etc **PRIOR to submittal to the Architect.** Contractors shall review all data for compliance with the contract documents prior to submittal and review by the Architect. Submittals with no evidence of prior review by the contractor will be returned.

Include the following information on the label for processing and recording action taken.

Project name.

Date.

Name and address of Contractor.

Name and address of subcontractor.

Name and address of supplier.

Name of manufacturer.

Drawing number and detail references, as appropriate.

**Submittal Transmittal:** Package each submittal appropriately for transmittal and handling. Transmit each submittal from Contractor to Architect using a transmittal form. Submittals received from sources other than the Contractor will be returned without action.

On the transmittal Record relevant information and requests for data. On the form, or separate sheet, record deviations from Contract Document requirements, including minor variations and limitations. Include Contractor's certification that information complies with Contract Document requirements.

## **CONTRACTOR'S CONSTRUCTION SCHEDULE**

**Bar-Chart Schedule:** Prepare a fully developed, horizontal bar-chart type Contractor's construction schedule. Submit within 30 days of the date established for "Commencement of the Work".

Provide a separate time bar for each significant construction activity. Provide a continuous vertical line to identify the first working day of each week. Use the same breakdown of units of the Work as indicated in the "Schedule of Values."

## **SHOP DRAWINGS**

Submit newly prepared information, drawn to accurate scale.

**Highlight, encircle, and otherwise indicate deviations from the Contract Documents. ALSO SEE GENERAL CONDITIONS REQUIREMENTS FOR SUBMITTAL – ARTICLE 3, paragraph 3.12, and all related subparagraphs.**

**Do not reproduce Contract Documents or copy standard information as the basis of Shop Drawings.** Standard information prepared without specific reference to the Project is not considered Shop Drawings.

Shop Drawings include fabrication and installation drawings, setting diagrams, schedules, patterns, templates and similar drawings. Include the following information:

- Dimensions.
- Identification of **specific products, model #'s and/or materials** included.
- Compliance with specified standards.
- Notation of coordination requirements.
- Notation of dimensions established by field measurement.

Sheet Size: Except for templates, patterns and similar full-size Drawings, submit Shop Drawings on sheets at least 8-1/2" x 11" but no larger than 30" x 42".

Paper - Initial Submittal: Submit two prints for the Architect's review; one print will be returned.

Electronic - PDF Submittals: Prepare submittals as PDF package, incorporating complete information into each PDF file. Name PDF file with submittal number.

Please Note: If possible, **electronic submittals are preferred** method of submittal / review.

**However, CONTRACTOR must then print all electronic submittals and provide FINAL stamped/approved PAPER COPIES on the Job Site -in the Job Trailer.**

Paper - Final Submittal: Submit 5 blue-line prints, 2 prints will be retained; the remainder will be returned.

**NOTE: Do not use Shop Drawings without an appropriate final stamp indicating action taken in connection with construction.**

Coordination drawings are a special type of Shop Drawing that show the relationship and integration of different construction elements that require careful coordination during fabrication or installation to fit in the space provided or function as intended.

## PRODUCT DATA

Collect Product Data into a single submittal for each element of construction or system. Product Data includes printed information such as manufacturer's installation instructions, catalog cuts, standard color charts, roughing-in diagrams and templates, standard wiring diagrams and performance curves. Where Product Data must be specially prepared because standard printed data is not suitable for use, submit as "Shop Drawings."

Mark each copy to show applicable choices and options. Where printed Product Data includes information on several products, some of which are not required, mark copies to indicate the applicable information. Include the following information:

- Manufacturer's printed recommendations.
- Compliance with recognized trade association standards.
- Compliance with recognized testing agency standards.

Application of testing agency labels and seals.  
Notation of dimensions verified by field measurement.  
Notation of coordination requirements.

**Do not submit Product Data until compliance with requirements of the Contract Documents has been confirmed.**

Preliminary Submittal: Submit a preliminary single-copy of Product Data where selection of options is required.

Submittals: Submit 5 copies of each required submittal. The Architect will retain two, and will return the others marked with action taken and corrections or modifications required.

Unless noncompliance with Contract Document provisions is observed, the submittal may serve as the final submittal.

Distribution: Furnish copies of final submittal to installers, subcontractors, suppliers, manufacturers, fabricators, and others required for performance of construction activities. Show distribution on transmittal forms.

Do not proceed with installation until an applicable copy of Product Data applicable is in the installer's possession.

Do not permit use of unmarked copies of Product Data in connection with construction.

## SAMPLES

Submit full-size, fully fabricated Samples cured and finished as specified and physically identical with the material or product proposed. Samples include partial sections of manufactured or fabricated components, cuts or containers of materials, color range sets, and swatches showing color, texture and pattern.

Mount, display, or package Samples in the manner specified to facilitate review of qualities indicated. Prepare Samples to match the Architect's Sample. Include the following:

Generic description of the Sample.  
Sample source.  
Product name or name of manufacturer.  
Compliance with recognized standards.  
Availability and delivery time.

Submit Samples for review of kind, color, pattern, and texture, for a final check of these characteristics with other elements, and for a comparison of these characteristics between the final submittal and the actual component as delivered and installed.

Where variation in color, pattern, texture or other characteristics are inherent in the material or product represented, submit multiple units (not less than 3), that show approximate limits of the variations.

Refer to other Specification Sections for requirements for Samples that illustrate workmanship, fabrication techniques, details of assembly, connections, operation and similar construction characteristics.

Preliminary submittals: Where Samples are for selection of color, pattern, texture or similar characteristics from a range of standard choices, submit a full set of choices for the material or product.

Preliminary submittals will be reviewed and returned with the Architect's mark indicating selection and other action.

**Note that the Architect must see a full selection of all samples of products that require a color selection together at one time. No decision can be made on any one color product without first seeing the full range of all color choices that must be made. No Delay may be claimed for Satisfying that requirement.**

Submittals: Except for Samples illustrating assembly details, workmanship, fabrication techniques, connections, operation and similar characteristics, submit four sets; two will be returned marked with the action taken.

Maintain sets of Samples, as returned, at the Project site, for quality comparisons throughout the course of construction.

Unless noncompliance with Contract Document provisions is observed, the submittal may serve as the final submittal.

Sample sets may be used to obtain final acceptance of the construction associated with each set.

Distribution of Samples: Prepare and distribute additional sets to subcontractors, manufacturers, fabricators, suppliers, installers, and others as required for performance of the Work. Show distribution on transmittal forms.

Field Samples specified in individual Sections are special types of Samples. Field Samples are full-size examples erected on site to illustrate finishes, coatings, or finish materials and to establish the standard by which the Work will be judged.

Comply with submittal requirements to the fullest extent possible. Process transmittal forms to provide a record of activity.

## ARCHITECT'S ACTION

Except for submittals for record, information or similar purposes, where action and return is required or requested, the Architect will review each submittal, mark to indicate action taken, and return promptly.

Compliance with specified characteristics is the Contractor's responsibility.

Action Stamp: The Architect will stamp each submittal with a uniform, self-explanatory action stamp. The stamp will be appropriately marked, as follows, to indicate the action taken:

Final Unrestricted Release: Where submittals are marked "Approved," that part of the Work covered by the submittal may proceed provided it complies with requirements of the Contract Documents; final acceptance will depend upon that compliance.

Final-But-Restricted Release: When submittals are marked "Approved as Noted," that part of the Work covered by the submittal may proceed provided it complies with notations or corrections on the submittal and requirements of the Contract Documents; final acceptance will depend on that compliance.

Returned for Resubmittal: When submittal is marked "Not Approved, Revise and Resubmit," do not proceed with that part of the Work covered by the submittal, including purchasing, fabrication,

delivery, or other activity. Revise or prepare a new submittal in accordance with the notations; resubmit without delay. Repeat if necessary to obtain a different action mark.

**NOTE:** Do not permit submittals marked "Not Approved, Revise and Resubmit" to be used at the Project site, or elsewhere where Work is in progress.

PART 2 - PRODUCTS (Not Applicable).

PART 3 - EXECUTION (Not Applicable).

End of SECTION 01300



## SECTION 01501 - TEMPORARY FACILITIES, SINGLE PRIME CONTRACTS

### PART 1 - GENERAL

#### RELATED DOCUMENTS:

Drawings and general provisions of each prime Contract, including General and Supplementary Conditions and other Division-1 Specification sections, apply to work of this section.

#### DESCRIPTION OF REQUIREMENTS:

This section specifies administrative and procedural requirements for temporary services and facilities, including such items as temporary utility services, temporary construction and support facilities, and project security, protection and temporary storage shed.

#### Division of Responsibilities:

**General:** Each Prime Contractor and/or subcontractor is specifically assigned certain responsibilities for temporary services and facilities to be used by other contractors, and other entities at the site. **The Contractor for General Work is responsible for providing all temporary services and facilities that are not related to other Prime Contracts or other subcontractors' normal work and are not specifically assigned otherwise by these specifications.**

**Work of each Prime contractor and/or subcontractor:** Except as otherwise indicated, each Prime Contractor and subcontractor is responsible for the following:

Installation, operation, maintenance and removal of each temporary service or facility usually recognized as related to its own normal scope of work, and the costs and use charges associated with each service or facility.

Plug-in electric power cords and extension cords, and supplementary plug-in task lighting and special lighting necessary exclusively for its own work.

Storage and fabrication sheds necessary for its own work.

Specialized or unusual hoisting requirements.

Collection and disposal of its own hazardous, dangerous, unsanitary or otherwise harmful waste material.

Construction aids and miscellaneous services and facilities necessary for its own work.

**The Contractor for General Work** is responsible for the following:

Temporary telephone, superintendent cellphone, and jobsite **fax or internet** service.

Temporary storm piping, dewatering and drainage.

Temporary Field Office. )

Temporary toilets, including disposable supplies.

Temporary enclosure of the building.

Minimum emergency fire protection.

Project identification and temporary signs.

General collection and disposal of wastes.

Barricades, warning signs.

Environmental protection.

Rodent and Pest Control.

General project Construction Aids and Miscellaneous Services and Facilities.

Project Sign (See sign layout at the end of the Section)

Piped temporary water service. (from the existing water service)

The Subcontractor for Electrical Work is responsible for the following:

Temporary electric power service and distribution. (From Owner's existing Power service)  
Temporary lighting.

Use Charges:

**Cost or usage charges for temporary services or facilities are not chargeable to the Owner or Architect. General Contractor's cost or use charges for temporary services or facilities will not be accepted as a basis of claims for a change-order extra. These charges must be part of base bid costs.**

Water Service Use Charges: The Contractor for the General work shall pay water service use charges, whether metered or otherwise, for water used by all entities authorized to be at or to perform work at the project site. This contractor may exercise reasonable control over water use in an effort to conserve water.

Electric Power Service Use Charges: The Contractor for the General Work shall pay electric power service use charges, whether metered or otherwise, for electricity used by all entities authorized to be at or to perform work at the project site. This contractor may exercise reasonable control over power use in an effort to conserve energy.

Telephone Charges: The Contractor for the General Work shall pay basic and local phone charges

Internet Charges: The contractor for the General Contractor shall pay for internet usage charges for online electronic service available at the jobsite for communications.

Other entities using temporary services and facilities may include, but are not limited to the following:

Other nonprime contractors,  
The Owner's work forces,  
Occupants of the Project,  
The Architect/Engineer,  
Testing agencies, and  
Personnel of governing agencies.

QUALITY ASSURANCE:

Regulations: Prime Contractor shall comply with local laws and regulations governing construction and local industry standards, in the installation and maintenance of temporary services and facilities, including but not limited to the following:

Building Codes, including local requirements for permits, testing and inspection,  
Health and safety regulations, (OSHA)  
Utility company regulations and recommendations governing temporary utility services,  
Fire Department rules and recommendations,  
Police and Rescue Squad recommendations, and  
Environmental protection regulations governing use of water and energy, and control of dust, noise and other nuisances. (DENR)

JOB CONDITIONS:

General: Contractor for the General work shall provide each temporary service and facility ready for use at each location, when first needed to avoid delays in performance of work. Maintain, expand as

required, and modify as needed throughout the progress of the work. Do not remove until services or facilities are no longer needed, or are replaced by the authorized use of completed permanent facilities.

**Heat and Humidity control:** The General Contractor must be aware that the unconditioned/exposed atmosphere inside the building produces extremely wet conditions in warm damp weather which causes condensation to form on cool interior surfaces. Temperature and humidity controls will be required to maintain newly installed finishes.

**Mold control:** The General Contractor will be required to protect construction in progress from the development of conditions that will be favorable for the development of mold. Means of removing moisture from within building enclosure shall be the responsibility of the General Contractor as required to inhibit mold development within the project.

**Conditions of Use:** Operate temporary services and facilities in a safe and efficient manner. Do not overload, and do not permit temporary services and facilities to interfere with the progress of work. Do not allow unsanitary conditions, public nuisances or hazardous conditions to develop or persist on the site.

**Temporary Utilities:** Do not permit freezing of pipes, flooding or the contamination of water sources.

**Temporary Construction and Support Facilities:** Maintain temporary facilities in a manner to prevent discomfort to users. Take necessary fire prevention measures. Maintain temporary facilities in a sanitary manner so as to avoid health problems.

**Security and Protection:** Maintain site security and protection facilities in a safe, lawful, publicly acceptable manner. Take measures necessary to prevent site erosion.

## **PART 2 - PRODUCTS**

### **MATERIALS AND EQUIPMENT:**

**General:** Contractor for the General work shall provide new materials and equipment for temporary services and facilities; used materials and equipment that are substantially undamaged and in serviceable condition may be used, if acceptable to the Architect/Engineer. Provide only materials and equipment that are suitable for their intended use.

**Temporary Utilities:** Where the local utility company provides only a portion of the temporary utility, provide the remainder with matching, compatible materials and equipment. Comply with utility company recommendations.

**Electrical Service:** Comply with applicable NEMA, NECA and UL standards and governing regulations for materials and layout of temporary electric service, including requirements included in Division-16 sections.

**Voltage Differences:** Provide identification warning signs at power outlets other than 110-120 volt power. Provide polarized outlets for plug-in type outlets, to prevent insertion of 110-120 volt plugs into higher voltage outlets.

**Ground-Fault Protection:** Provide receptacle outlets equipped with ground-fault circuit interrupters, reset button and pilot light, for plug-in connection of power tools and equipment.

**Electrical Power Cords:** Use only grounded extension cords; use "hard-service" cords where exposed to abrasion and traffic. Use single lengths or waterproof connectors to connect separate lengths, if single lengths will not reach work areas.

**Lamps and Light Fixtures:** Provide general service incandescent lamps of wattage indicated or required for adequate illumination. Provide exterior fixtures where fixtures are exposed to weather or moisture.

Temporary Construction and Support Facilities: Provide facilities that can be maintained properly throughout the course of use at the project site.

Heating Units: Provide temporary heating units that have been tested and labeled by UL, FM or another recognized trade association related to the fuel being consumed.

Temporary Offices and Similar Construction: For temporary offices, fabrication shops, storage sheds and similar construction, provide standard prefabricated or mobile units. Provide insulated, weathertight units, that are heated and air-conditioned, with lockable entrances, operable windows, roofing, foundations adequate for normal loading, including wind loads, serviceable finishes, and mechanical and electrical equipment necessary to achieve ambient conditions indicated.

Self-Contained Toilet Units: Provide single-occupant self-contained toilet units of the chemical, aerated recirculation, or combustion type, properly vented and fully enclosed with glass fiber reinforced polyester shell or similar non-absorbent material.

First Aid Supplies: Comply with governing regulations and recognized recommendations within the construction industry.

Drinking Water: Provide potable water complying with local health authority requirements.

Sign Materials: For signs and directory boards, provide exterior type, Grade B-B High Density Concrete Form Overlay Plywood conforming to PS-1, of sizes and thicknesses indicated. Provide exterior grade acrylic-latex-base enamel for painting sign panels and applying graphics.

#### Security and Protection Facilities:

Fire Extinguishers: Provide type "A" fire extinguishers for temporary offices and similar spaces where there is minimal danger of electrical fires or grease-oil-flammable liquid fires. In other locations provide either type "ABC" dry chemical extinguishers, or a combination of several extinguishers of NFPA recommended types for the exposures in each case.

Security: Provide security against unauthorized entry of the public into the construction area..Provide door locks and physical barriers to all access points of entry as required to prevent unauthorized entry or damage to the construction area or stored materials or equipment caused by unauthorized/unlawful entrance.

### PART 3 - EXECUTION

#### INSTALLATION - GENERAL:

General: Use qualified tradesmen for installation of temporary services and facilities. Locate temporary services and facilities where they will serve the entire project adequately and result in minimum interference with performance of the Work.

Relocate, modify and extend services and facilities as required during the course of work so as to accommodate the entire work of the project.

#### TEMPORARY UTILITY INSTALLATION:

General: Engage the local utility company to install temporary service to the project, or to make connections to existing service. Arrange with the companies and existing users for an acceptable time when service can be interrupted, where necessary, to make connections for temporary services.

#### Water Service:

General: Install water service and distribution piping of sizes and pressures adequate for temporary construction purposes during the construction period and until permanent service is in use, including but not limited to the following uses:

Construction processes,  
Drinking water,  
Sanitary facilities, and  
Cleaning.

Obtain metered water service from the existing building Water Service.

Temporary Electric Power Service:

General: Provide a weatherproof, grounded electric power service and distribution system of sufficient size, capacity, and power characteristics to accommodate performance of work during the construction period. Whenever an overhead floor or roof deck has been installed, install temporary lighting adequate to provide sufficient illumination for safe work and traffic conditions in every work area.

Temporary Service: Install service and grounding in compliance with the National Electric Code (NFPA 70). Include necessary meters, transformers, overload protection disconnect and main distribution switch gear.

Install electric power service overhead except where underground service must be used to avoid construction conflicts or to comply with governing regulations.

Connect temporary service to the local electric power company main in the manner directed by company officials.

Provide temporary service with an automatic ground-fault interrupter feature, activated from the circuits of the system.

Power Distribution System: Provide circuits of adequate size and proper characteristics for each use.

Provide overload-protected disconnect switch for each temporary power circuit and each temporary lighting circuit, located at the power distribution center.

For power hand tools and task lighting, provide temporary 4-gang outlets at each floor level, spaced so that a 100 foot extension cord can reach each work area. Provide separate 110-120 Volt, 20 Amp circuit for each 4-gang outlet (4 outlets per circuit).

Temporary Lighting:

Provide not less than one 200-watt incandescent lamp per 1000 sq. ft. of floor area, uniformly distributed, for general construction lighting, or illumination of a similar nature. In corridors and similar traffic areas provide one 100-watt incandescent lamp every 50 feet. In stairways and at ladder runs, provide one lamp every story, located to illuminate each landing and flight.

Install and operate temporary lighting to fulfill security and protection requirements, without the necessity of operating the entire system.

TEMPORARY CONSTRUCTION AND SUPPORT FACILITIES INSTALLATION:

General: Provide a neat and uniform appearance in temporary construction and support facilities acceptable to the Architect/Engineer and the Owner.

Locate field offices, storage and fabrication sheds and other facilities for easy access to the work. Position offices so that windows give the best possible view of construction activities.

Maintain field offices, storage and fabrication sheds, temporary sanitary facilities, waste collection and disposal system, and project identification and temporary signs until near substantial completion. Immediately prior to substantial completion remove these facilities. Personnel remaining at the site beyond substantial completion will be permitted to use certain permanent facilities, under restricted use conditions acceptable to the Owner.

Temporary Heat:

General: Provide temporary heat where indicated or needed for proper performance of the Work, curing or drying of recently installed work or protection of work in place from adverse effects of low temperatures or high humidity. Select facilities known to be safe and without deleterious effect upon work in place or being installed. Coordinate with ventilation requirements to produce indicated ambient condition required and to minimize consumption of fuel or energy.

Maintain a minimum temperature of 45 deg.F (7 deg.C) in permanently enclosed portions of the building and areas where finished work has been installed.

Heating Facilities: Except where conditions make it necessary to use another system, and where use of permanent heating system is available and authorized, provide properly vented self-contained LP gas or fuel oil heaters with individual space thermostatic control for temporary heat.

Do not use open burning or salamander type temporary heating units where prohibited by governing regulations, or when combustible materials are located in or near the space being heated, or when work installed or being installed includes work exposed to view in the completed project.

Storage and Fabrication Sheds: Install storage and fabrication sheds, properly sized, furnished and equipped, as required to accommodate work. Comply with applicable provisions specified elsewhere for distribution and use of temporary utilities. Sheds may be open shelters or fully enclosed spaces, within the building construction area or elsewhere on the project site.

Sanitary Facilities:

General: Sanitary facilities include temporary toilets, wash facilities and drinking water fixtures. Comply with governing regulations including safety and health codes for the type, number, location, operation and maintenance of fixtures and facilities; provide not less than specified requirements. Install in locations which will best service the project's needs.

Supply and maintain toilet tissue, paper towels, paper cups and other disposable materials as appropriate for each facility. Provide covered waste containers for used material.

Toilets: Install self-contained toilet units or water and sewer connected temporary toilet facilities, to the extent permitted by governing regulations. Use of pit-type privies will not be permitted. Provide a minimum of three units.

Wash Facilities: Install potable-water-supplied wash facilities at locations convenient to construction personnel involved in handling compounds and materials where wash-up is necessary to maintain a healthy, sanitary condition.

Responsibilities: The Contractor for General Work is responsible for temporary sanitary facilities and their maintenance, including disposable supplies.

Temporary Enclosure:

General: At the earliest practical time provide temporary enclosure of materials, equipment, work in progress and completed portions of work to provide protection to the Work and employees from effects of exposure, foul weather, other construction operations, and similar activities on the site.

Provide temporary enclosures where temporary heat is needed and permanent building enclosure is not yet completed, and there is no other provision for containment of temporary heat. Coordinate enclosures with ventilating and material drying or curing requirements to avoid dangerous conditions and adverse effects.

Enclosure: Install tarpaulins or equivalent materials securely, using a minimum of wood framing and combustible materials. Individual openings of 25 sq. ft. or less may be closed with plywood or similar materials.

Close openings through the floor or roof decks and other horizontal surfaces with substantial load-bearing wood-framed or similar construction.

Project Identification and Temporary Signs:

General: Prepare project identification and other temporary signs of the size and with graphic content indicated; install where indicated. Support on posts or framing of treated wood or steel. Maintain signs to properly inform the public and persons seeking entrance to the project. Do not permit installation of unauthorized signs that are visible outside the site.

Project Identification Signs: Engage an experienced sign painter to apply graphics in a neat professional manner. Comply with details and notations indicated on sketch of sign inserted after end of this section.

Collection and Disposal of Wastes:

General: Establish a system for daily collection and disposal of waste materials from construction areas and elsewhere on the site. Enforce requirements strictly. Do not hold collected materials at the site more than 7 days during normal weather or 3 days when the daily temperature is expected to rise above 80 deg.F (27 deg.C). Handle hazardous, dangerous, or unsanitary waste materials separately from other inert waste by containerizing appropriately. Dispose of waste material in a lawful manner.

Burying or burning of waste materials on the site will not be permitted. Washing waste materials down sewers or into waterways will not be permitted.

Construction Aids and Miscellaneous Services and Facilities:

General: Design, construct, and maintain construction aids and miscellaneous services and facilities as needed to accommodate performance of work. Construction aids and miscellaneous services and facilities include, but are not limited to the following:

Temporary stairs and ladders,  
Guardrails and barriers, and  
Walkways.

Stairs: Until permanent stairs are available, provide temporary stairs where ladders are not adequate for performance of work. Cover finished permanent stairs exposed to occupants' use, with a durable protective covering of plywood or similar material so that finishes will undamaged at the time of acceptance.

Walkways: Install and maintain temporary walkways around construction work and to field offices, toilets and similar places. Construct walkways of washed, well graded gravel 6" deep by 36" wide, or duckboard units 20" wide.

Responsibility: General construction aids and miscellaneous facilities required by the Contractor for General Work as well as other subcontractors are the responsibility of the Contractor for General Work. Construction aids and miscellaneous facilities required exclusively for each subcontractor are the responsibility of that subcontractor.

SECURITY AND PROTECTION FACILITIES INSTALLATION:

General: Provide a neat and uniform appearance in security and protection facilities acceptable to the Architect/Engineer and the Owner.

Barricades, Warning Signs:

General: Comply with recognized standards and code requirements for erection of substantial, structurally adequate barricades where needed to prevent accidents and losses. Paint with appropriate colors, graphics and warning signs to inform personnel at the site and the public, of the hazard being protected against. Provide lighting where appropriate and needed for recognition of the facility, including flashing red lights where appropriate.

Storage: Where materials and equipment must be temporarily stored, prior to and during construction, and are of substantial value or are attractive for possible theft, provide a secure lockup. Enforce strict

discipline in connection with the timing of installation and release of materials, so that the opportunity for theft and vandalism is minimized.

#### OPERATION, TERMINATION AND REMOVAL:

Supervision: Enforce strict discipline in the use of temporary services and facilities at the site. Limit availability of temporary services and facilities to essential and intended uses to minimize waste and abuse. Do not permit temporary installations to be abused or endangered. Do not allow hazardous, dangerous or unsanitary conditions to develop or persist on the site.

Maintenance: Operate and maintain temporary services and facilities in good operating condition throughout the time of use and until removal is authorized. Protect from damage by freezing temperatures and similar elements.

Maintain operation of temporary enclosures, heating, cooling, humidity control, ventilation and similar facilities on a 24-hour day basis where required to achieve indicated results in the work and avoid the possibility of damage to work or the temporary facilities.

Protection: Prevent water filled piping from freezing, by use of ground covers, insulation, by keeping drained or by temporary heating. Maintain distinct markers for underground lines. Protect from damage during excavation operations.

Termination and Removal: Unless the Architect/Engineer requests that it be maintained for a longer period of time, remove each temporary service and facility promptly when the need for it has ended, or when it has been replaced by authorized use of a permanent facility, or no later than the time of substantial completion. Complete or, if necessary, restore permanent work which may have been delayed because of interference with the temporary service or facility. Repair damaged work, clean exposed surfaces and replace work which cannot be satisfactorily repaired.

Materials and facilities that constitute temporary services and facilities are and remain the property of each Prime Contractor.

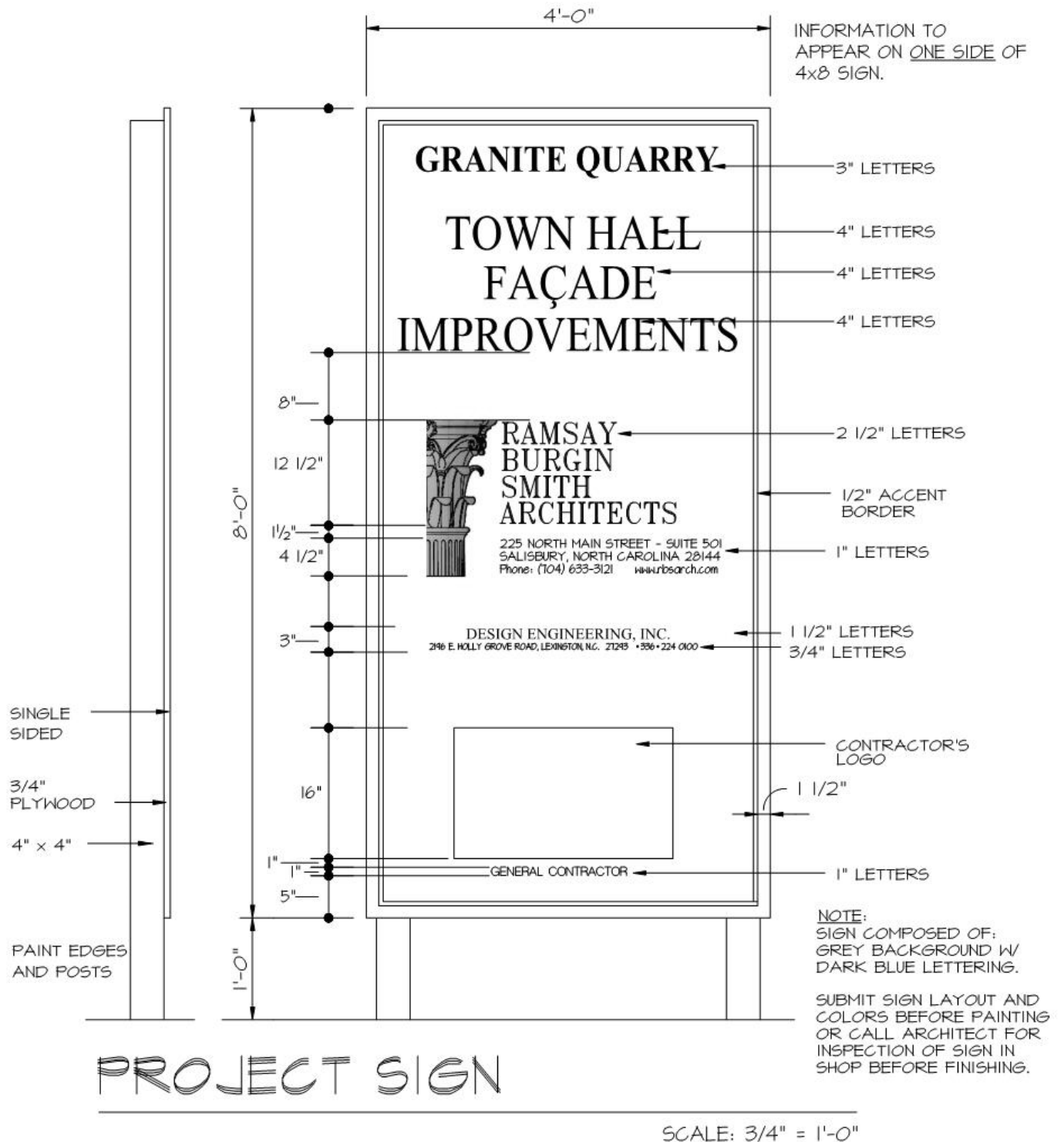
At substantial completion, clean and renovate permanent services and facilities that have been used to provide temporary services and facilities during the construction period, including but not limited to the following:

Replace air filters and clean the inside of ductwork and housings.

Replace significantly worn parts and parts that have been subject to unusual operating conditions.

Replace lamps in the lighting system that are burned out or dimmed by substantial hours of use.





END of SECTION 01501

## SECTION 01600 - MATERIALS AND EQUIPMENT

### PART 1 - GENERAL

#### RELATED DOCUMENTS

Drawings and general provisions of Contract, including General and Supplementary Conditions and other Division-1 Specification Sections, apply to this Section.

#### SUMMARY

This Section specifies administrative and procedural requirements governing the Prime Contractor's(s') selection of products for use in the Project.

Prime Contracts: Provisions of this Section apply to the construction activities of each Prime Contractor.

The Prime Contractor's(s') Construction Schedule and the Schedule of Submittals are included under Section "Submittals."

Standards: Refer to Section "Definitions and Standards" for applicability of industry standards to products specified.

Administrative procedures for handling requests for substitutions made after award of the Contract are included under Section "Product Substitutions."

#### DEFINITIONS

Definitions used in this Article are not intended to change the meaning of other terms used in the Contract Documents, such as "specialties," "systems," "structure," "finishes," "accessories," and similar terms. Such terms such are self-explanatory and have well recognized meanings in the construction industry.

"Products" are items purchased for incorporation in the Work, whether purchased for the Project or taken from previously purchased stock. The term "product" includes the terms "material," "equipment," "system," and terms of similar intent.

"Named Products" are items identified by manufacturer's product name, including make or model designation, indicated in the manufacturer's published product literature, that is current as of the date of the Contract Documents.

"Materials" are products that are substantially shaped, cut, worked, mixed, finished, refined or otherwise fabricated, processed, or installed to form a part of the Work.

"Equipment", is a product with operational parts, whether motorized or manually operated, that requires service connections such as wiring or piping.

#### QUALITY ASSURANCE

Source Limitations: To the fullest extent possible, provide products of the same kind, from a single source.

Compatibility of Options: When the Prime Contractor(s) is given the option of selecting between two or more products for use on the Project, the product selected shall be compatible with products previously selected, even if previously selected products were also options.

Each Prime Contractor (or subcontractor) is responsible for providing products and construction methods that are compatible with products and construction methods of prime or other separate subcontractors.

If a dispute arises between Prime Contractors or subcontractors over concurrently selectable, but incompatible products, the Architect will determine which products shall be retained and which are incompatible and must be replaced.

Nameplates: Except for required labels and operating data, do not attach or imprint manufacturer's or producer's nameplates or trademarks on exposed surfaces of products which will be exposed to view in occupied spaces or on the exterior.

Labels: Locate required product labels and stamps on a concealed surface or, where required for observation after installation, on an accessible surface that is not conspicuous.

Equipment Nameplates: Provide a permanent nameplate on each item of service-connected or power-operated equipment. Locate on an easily accessible surface which is inconspicuous in occupied spaces. The nameplate shall contain the essential operating data and equipment characteristics.

## PRODUCT DELIVERY, STORAGE, AND HANDLING

Deliver, store and handle products in accordance with the manufacturer's recommendations, using means and methods that will prevent damage, deterioration and loss, including theft.

Schedule delivery to minimize long-term storage at the site and to prevent overcrowding of construction spaces.

Coordinate delivery with installation time to ensure minimum holding time for items that are flammable, hazardous, easily damaged, or sensitive to deterioration, theft and other losses.

Deliver products to the site in the manufacturer's original sealed container or other packaging system, complete with labels and instructions for handling, storing, unpacking, protecting and installing.

Inspect products upon delivery to ensure compliance with the Contract Documents, and to ensure that products are undamaged and properly protected.

Store products at the site in a manner that will facilitate inspection and measurement of quantity or counting of units.

Store heavy materials away from the Project structure in a manner that will not endanger the supporting construction.

Store products subject to damage by the elements above ground, under cover in a weathertight enclosure, with ventilation adequate to prevent condensation. Maintain temperature and humidity within range required by manufacturer's instructions.

## PART 2 - PRODUCTS

### PRODUCT SELECTION

General Product Requirements: Provide products that comply with the Contract Documents, that are undamaged and, unless otherwise indicated, unused at the time of installation.

Provide products complete with all accessories, trim, finish, safety guards and other devices and details needed for a complete installation and for the intended use and effect.

Standard Products: Where available, provide standard products of types that have been produced and used successfully in similar situations on other projects.

Product Selection Procedures: Product selection is governed by the Contract Documents and governing regulations, not by previous Project experience. Procedures governing product selection include the following:

Proprietary Specification Requirements: Where only a single product or manufacturer is named, provide the product indicated. No substitutions will be permitted.

Semi-proprietary Specification Requirements: Where two or more products or manufacturers are named, provide one of the products indicated. No substitutions will be permitted.

Where products or manufacturers are specified by name, accompanied by the term "or equal," or "or approved equal" comply with the Contract Document provisions concerning "substitutions" to obtain approval for use of an unnamed product.

Non-Proprietary Specifications: When the Specifications list products or manufacturers that are available and may be incorporated in the Work, but do not restrict the Prime Contractor(s) to use of these products only, the Prime Contractor(s) may propose any available product that complies with Contract requirements. Comply with Contract Document provisions concerning "substitutions" to obtain approval for use of an unnamed product.

Descriptive Specification Requirements: Where Specifications describe a product or assembly, listing exact characteristics required, with or without use of a brand or trade name, provide a product or assembly that provides the characteristics and otherwise complies with Contract requirements.

Performance Specification Requirements: Where Specifications require compliance with performance requirements, provide products that comply with these requirements, and are recommended by the manufacturer for the application indicated. General overall performance of a product is implied where the product is specified for a specific application.

Manufacturer's recommendations may be contained in published product literature, or by the manufacturer's certification of performance.

Compliance with Standards, Codes and Regulations: Where the Specifications only require compliance with an imposed code, standard or regulation, select a product that complies with the standards, codes or regulations specified.

Visual Matching: Where Specifications require matching an established Sample, the Architect's decision will be final on whether a proposed product matches satisfactorily.

Where no product available within the specified category matches satisfactorily and also complies with other specified requirements, comply with provisions of the Contract Documents concerning "substitutions" for selection of a matching product in another product category, or for noncompliance with specified requirements.

Visual Selection: Where specified product requirements include the phrase "...as selected from manufacturer's standard colors, patterns, textures

Allowances: Refer to individual Specification Sections and "Allowance" provisions in Division-1 for allowances that control product selection, and for procedures required for processing such selections.

## PART 3 - EXECUTION

### INSTALLATION OF PRODUCTS

Comply with manufacturer's instructions and recommendations for installation of products in the applications indicated. Anchor each product securely in place, accurately located and aligned with other Work.

Clean exposed surfaces and protect as necessary to ensure freedom from damage and deterioration at time of Substantial Completion.

End of SECTION 01600

## SECTION 01631 - PRODUCT SUBSTITUTIONS

### PART 1 - GENERAL

#### RELATED DOCUMENTS

Drawings and general provisions of Contract, including General and Supplementary Conditions and other Division-1 Specification Sections, apply to this Section.

#### SUMMARY

This Section specifies administrative and procedural requirements for handling requests for substitutions made after award of the Contract.

Prime Contract: Provisions of this Section apply to the construction activities of the General Contractor.

The General Contractor's Construction Schedule and the Schedule of Submittals are included under Section "Submittals."

Standards: Refer to Section "Definitions and Standards" for applicability of industry standards to products specified.

Procedural requirements governing the General Contractor's selection of products and product options are included under Section "Materials and Equipment."

#### DEFINITIONS

Definitions used in this Article are not intended to change or modify the meaning of other terms used in the Contract Documents.

Substitutions: Requests for changes in products, materials, equipment, and methods of construction required by Contract Documents proposed by the General Contractor after award of the Contract are considered requests for "substitutions." The following are not considered substitutions:

Substitutions requested by Bidders during the bidding period, and incorporated in a project addendum prior to award of Contract, are considered as included in the Contract Documents and are not subject to requirements specified in this Section for substitutions.

Revisions to Contract Documents requested by the Owner or Architect.

Specified options of products and construction methods included in Contract Documents.

#### SUBMITTALS

Substitution Request Submittal: Requests for substitution will be considered if received within 60 days after commencement of the Work. Requests received more than 60 days after commencement of the Work may be considered or rejected at the discretion of the Architect.

Submit 3 copies of each request for substitution for consideration. Submit requests in the form and in accordance with procedures required for Change Order proposals.

Identify the product, or the fabrication or installation method to be replaced in each request. Include related Specification Section and Drawing numbers. Provide complete documentation showing compliance with the requirements for substitutions, and the following information, as appropriate:

Product Data, including Drawings and descriptions of products, fabrication and installation procedures.

Samples, where applicable or requested.

A detailed comparison of significant qualities of the proposed substitution with those of the Work specified. Significant qualities may include elements such as size, weight, durability, performance and visual effect.

Coordination information, including a list of changes or modifications needed to other parts of the Work and to construction performed by the Owner and separate Sub Contractors, that will become necessary to accommodate the proposed substitution.

A statement indicating the substitution's effect on the Construction Schedule compared to the schedule without approval of the substitution.

Cost information, including a proposal of the net change, if any in the Contract Sum.

Certification by the General Contractor that the substitution proposed is equal-to or better in every significant respect to that required by the Contract Documents, and that it will perform adequately in the application indicated. Include the Prime Contractor's(s') waiver of rights to additional payment or time, that may subsequently become necessary because of the failure of the substitution to perform adequately.

Architect's Action: Within one week of receipt of the request for substitution, the Architect will request additional information or documentation necessary for evaluation of the request. Within 2 weeks of receipt of the request, or one week of receipt of the additional information or documentation, whichever is later, the Architect will notify the Prime Contractor(s) of acceptance or rejection of the proposed substitution. If a decision on use of a proposed substitute cannot be made or obtained within the time allocated, use the product specified by name. Acceptance will be in the form of a Change Order.

## PART 2 - PRODUCTS

### SUBSTITUTIONS

Conditions: The General Contractor's substitution request will be received and considered by the Architect when one or more of the following conditions are satisfied, as determined by the Architect; otherwise requests will be returned without action except to record noncompliance with these requirements.

Extensive revisions to Contract Documents are not required.

Proposed changes are in keeping with the general intent of Contract Documents.

The request is timely, fully documented and properly submitted.

The request is directly related to an "or equal" clause or similar language in the Contract Documents.

The specified product or method of construction cannot be provided within the Contract Time. The request will not be considered if the product or method cannot be provided as a result of failure to pursue the Work promptly or coordinate activities properly.

The specified product or method of construction cannot receive necessary approval by a governing authority, and the requested substitution can be approved.

A substantial advantage is offered the Owner, in terms of cost, time, energy conservation or other considerations of merit, after deducting offsetting responsibilities the Owner may be required to bear. Additional responsibilities for the Owner may include additional compensation to the Architect for redesign and evaluation services, increased cost of other construction by the Owner or separate sub Contractors, and similar considerations.

The specified product or method of construction cannot be provided in a manner that is compatible with other materials, and where the General Contractor certifies that the substitution will overcome the incompatibility.

The specified product or method of construction cannot be coordinated with other materials, and where the General Contractor certifies that the proposed substitution can be coordinated.

The specified product or method of construction cannot provide a warranty required by the Contract Documents and where the General Contractor certifies that the proposed substitution provide the required warranty.

The General Contractor's submittal and Architect's acceptance of Shop Drawings, Product Data or Samples that relate to construction activities not complying with the Contract Documents does not constitute an acceptable or valid request for substitution, nor does it constitute approval.

PART 3 - EXECUTION (Not Applicable).

End of SECTION 01631

## SECTION 01700 - PROJECT CLOSEOUT

### PART 1 - GENERAL

#### RELATED DOCUMENTS:

Drawings and general provisions of Contract, including General and Supplementary Conditions and other Division-1 Specification sections, apply to work of this section.

#### DESCRIPTION OF REQUIREMENTS:

Definitions: Project closeout is the term used to describe certain collective project requirements, indicating completion of the Work that are to be fulfilled near the end of the Contract time in preparation for final acceptance and occupancy of the Work by the Owner, as well as final payment to the Prime Contractor(s) and the normal termination of the Contract.

Specific requirements for individual units of work are included in the appropriate sections in Divisions 2 through 16.

Time of closeout is directly related to "Substantial Completion"; therefore, the time of closeout may be either a single time period for the entire Work or a series of time periods for individual elements of the Work that have been certified as substantially complete at different dates. This time variation, if any, shall be applicable to the other provisions of this section.

#### PREREQUISITES TO SUBSTANTIAL COMPLETION:

General: Complete the following before requesting the Architect's inspection for certification of substantial completion, either for the entire Work or for portions of the Work. List known exceptions in the request.

In the progress payment request that coincides with, or is the first request following, the date substantial completion is claimed, show either 100% completion for the portion of the Work claimed as "substantially complete", or list incomplete items, the value of incomplete work, and reasons for the Work being incomplete.

Include supporting documentation for completion as indicated in these contract documents.

Submit a statement showing an accounting of changes to the Contract Sum.

Advise Owner of pending insurance change-over requirements.

Submit specific warranties, workmanship/maintenance bonds, maintenance agreements, final certifications and similar documents.

Obtain and submit releases enabling Owner's full, unrestricted use of the Work and access to services and utilities. Where required, include occupancy permits, operating certificates and similar releases.

Submit record drawings, maintenance manuals, damage or settlement survey, and similar final record information.

Deliver tools, spare parts, extra stocks of material and similar physical items to the Owner.



Make the final change-over of locks and transmit the keys to the Owner. Advise the Owner's personnel of the change-over in security provisions.

Complete start-up testing of systems, and instruction of the Owner's operating and maintenance personnel. Discontinue or change over and remove temporary facilities and services from the project site, along with construction tools and facilities, mock-ups, and similar elements.

Complete final cleaning up requirements, including touch-up painting of marred surfaces.

Touch-up and otherwise repair and restore marred exposed finishes.

Inspection Procedures: Upon receipt of General Contractor's request for inspection, the Architect will either proceed with inspection or advise the General Contractor of unfulfilled prerequisites.

Following the initial inspection, the Architect will either prepare the certificate of substantial completion, or will advise the General Contractor of work which must be performed before the certificate will be issued. The Architect will repeat the inspection when requested and when assured that the Work has been substantially completed.

Results of the completed inspection will form the initial "punch-list" for final acceptance.

**Punch lists must be completed by the contractor within 30 days of receipt. Unless items on the list are specifically excluded by the Architect, Liquidated damages will be reassessed for work not completed in the 30 days indicated above.**

#### PREREQUISITES TO FINAL ACCEPTANCE:

General: Complete the following before requesting the Architect's final inspection for certification of final acceptance, and final payment as required by the General Conditions. List known exceptions, if any, in request:

Submit the final payment request with final releases and supporting documentation not previously submitted and accepted. Include certificates of insurance for products and completed operations where required.

Submit an updated final statement, accounting for final additional changes to the Contract Sum.

**Submit a certified copy of the Architect's final punch-list of itemized work to be completed or corrected, stating that each item has been completed or otherwise resolved for acceptance and has been endorsed and dated by the Architect.**

Submit final meter readings for utilities, a measured record of stored fuel, and similar data as of the date of substantial completion, or else when the Owner took possession of and responsibility for corresponding elements of the Work.

**Submit 3 copies of the Consent of Surety, General Contractor's Affidavit of Payment of Debts and Claims; Release of Liens (from each major subcontractor and material supplier.)**

Submit evidence of final, continuing insurance coverage complying with insurance requirements.

Re-inspection Procedure: The Architect will re-inspect the Work upon receipt of the General Contractor's notice that the work, including punch-list items resulting from earlier inspections, has been completed, except for these items whose completion has been delayed because of circumstances that are acceptable to the Architect.

Upon completion of re-inspection, the Architect will either prepare a certificate of final acceptance, or will advise the General Contractor of work that is incomplete or of obligations that have not been fulfilled, but are required for final acceptance.

If necessary, the re-inspection procedure will be repeated.

#### RECORD DOCUMENT SUBMITTALS:

General: Specific requirements for record documents are indicated in the individual sections of these specifications. Other requirements are indicated in the General Conditions. General submittal requirements are indicated in "submittals" sections.

Do not use record documents for construction purposes; protect from deterioration and loss in a secure, fire-resistive location; provide access to record documents for the Architect's reference during normal working hours.

Record Drawings: Maintain a record set of black line white-prints of contract drawings and shop drawings in a clean, undamaged condition. Mark-up the set of record documents to show the actual installation where the installed work varies substantially from the work as originally shown. Mark whichever drawing is most capable of showing the actual "field" condition fully and accurately; however, where shop drawings are used for mark-up, record a cross-reference at the corresponding location on the working drawings. Give particular attention to concealed work that would be difficult to measure and record at a later date.

Mark record sets with red erasable pencil and, where feasible, use other colors to distinguish between variations in separate categories of work.

Mark-up new information which is known to be important to the Owner, but for some reason was not shown on either contract drawings or shop drawings.

Note related change-order number where applicable.

Organize record drawing sheets into manageable sets, bind with durable paper cover sheets, and print suitable titles, dates and other identification on cover of each set.

Record Project Survey: Submit three copies of the project property survey provided by a licensed surveyor that shows within the project boundaries, the new and existing structures, site improvements, utilities, storm drainage components including basin top, inlet and outlet elevations, and other data a required by the local municipality.

Record Specifications: Maintain one complete copy of the Project Manual, including specifications and addenda, and one copy of other written construction documents such as change orders and similar modifications issued in printed form during construction. Mark these documents to show substantial variations in the actual work performed in comparison with the text of the specifications and modifications as issued. Give particular attention to substitutions, selection of options and similar information on work where it is concealed or cannot otherwise be readily discerned at a later date by direct observation. Note related record drawing information and product data, where applicable.

Upon completion of the Work, submit record specifications to the Architect for the Owner's records.

Miscellaneous Record Submittals: Refer to other sections of these specifications for requirements of miscellaneous record-keeping and submittals in connection with the actual performance of the Work. Immediately prior to the date or dates of substantial completion, complete miscellaneous records and place in good order, properly identified and bound or filed, ready for continued use and reference. Submit to the Architect for the Owner's records.

Maintenance Manuals: (Three copies) Organize operating and maintenance data into suitable sets of manageable size. Bind data into individual binders properly identified and indexed. Bind each set of data in a heavy-duty 2-inch, 3-ring vinyl-covered binder, with pocket folders for folded sheet information. Mark the appropriate identification on both front and spine of each binder.

Include the following types of information in operation and maintenance manuals:

- List the General Contractor and major subcontractors names, addresses and phone numbers and contact person.
- Project Warranties
- Subcontractor Warranties
- Emergency instructions,
- Spare parts listing,
- Copies of color schedules, hardware schedules,
- Wiring diagrams,
- Recommended "turn-around" cycles,
- Inspection procedures,
- Shop drawings and product data, and
- Floor or wall finish cleaning instructions from manufacturers.
- Asbestos Certification for Project

## PART 2 - PRODUCTS (Not Applicable)

## PART 3 - EXECUTION

### CLOSEOUT PROCEDURES:

General Operating and Maintenance Instructions: Arrange for each installer of operating equipment and other work that requires regular or continuing maintenance, to meet at the site with the Owners personnel to provide necessary basic instruction in the proper operation and maintenance of the entire Work. Where installers are not experienced in the required procedures, include instruction by the manufacturer's representatives.

As part of this instruction provide a detailed review of the following items:

- Maintenance manuals,
- Record documents,
- Spare parts and materials,
- Tools,
- Lubricants,
- Fuels,
- Identification systems,
- Control sequences,
- Hazards,
- Cleaning, and
- Warranties, bonds, maintenance agreements and similar continuing commitments.

As part of this instruction for operating equipment demonstrate the following procedures:

- Start-up,
- Shut-down,
- Emergency operations,
- Noise and vibration adjustments,
- Safety procedures,
- Economy and efficiency adjustments, and

Effective and energy utilization.

FINAL CLEANING:

General: Special cleaning requirements for specific units of Work are included in the appropriate sections of Divisions 2 through 16. General Cleaning during the regular progress of the Work is required by the General Conditions and is included under section "Temporary Facilities".

Cleaning: Provide final cleaning of the Work at the time indicated. Employ experienced workers or professional cleaners for final cleaning. Clean each surface or unit of work to the condition expected from a normal, commercial building cleaning and maintenance program. Comply with the manufacturer's instructions for operations.

Complete the following cleaning operations before requesting the Architect's inspection for certification of substantial completion.

Remove labels that are not required as permanent labels.

Clean transparent materials, including mirrors and glass in doors and windows, to a polished condition. Remove putty and other substances that are noticeable as vision-obscuring materials. Replace chipped or broken glass and other damaged transparent materials.

Clean exposed exterior and interim hard-surfaced finishes to a dust-free condition, free of dust, stains, films and similar noticeable distracting substances. Restore reflective surfaces to their original reflective condition. Leave concrete floors broom clean. Vacuum carpeted surfaces.

Wipe surfaces of mechanical and electrical equipment clean. Remove excess lubrication and other substances. Clean plumbing fixtures to a sanitary condition. Clean light fixtures and lamps.

Clean the project site, including landscape development areas, of rubbish, litter and foreign substances. Sweep paved areas to a broom-clean condition; remove stains, spills, and other foreign deposits. Rake grounds that are neither paved nor planted, to a smooth, even-textured surface.

Removal of Protection: Except as otherwise indicated or requested by the Architect, remove temporary protection devices and facilities that were installed during the course of the work to protect previously completed work during the remainder of the construction period.

Compliances: Comply with safety standards and governing regulations for cleaning operations. Do not burn waste materials at the site. Do not bury debris or excess materials on the Owner's property. Do not discharge volatile or other harmful or dangerous materials into drainage systems. Remove waste materials from the site and dispose of in a lawful manner.

Where extra materials of value remaining after completion of associated work have become the Owner's property, dispose of these to the Owner's best advantage as directed.

End of SECTION 01700

## SECTION 01732 - SELECTIVE DEMOLITION

### PART 1 - GENERAL

#### RELATED DOCUMENTS

Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 1 Specification Sections, apply to this Section.

#### SUMMARY

This Section includes the following:

- Demolition and removal of selected portions of a building or structure.
- Demolition and removal of selected site elements.
- Repair procedures for selective demolition operations.

Related Sections include the following:

- Division 1 Section "Summary" for use of the premises and phasing requirements.
- Division 1 Section "Temporary Facilities" for temporary construction.
- Division 1 Section "Cutting and Patching" for cutting and patching procedures for selective demolition operations.

#### DEFINITIONS

Remove: Detach items from existing construction and legally dispose of them off-site, unless indicated to be removed and salvaged or removed and reinstalled.

Remove and Salvage: Detach items from existing construction and deliver them to Owner.

Remove and Reinstall: Detach items from existing construction, prepare them for reuse, and reinstall them where indicated.

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.

#### MATERIALS OWNERSHIP

Except for items or materials indicated to be reused, salvaged, reinstalled, or otherwise indicated to remain Owner's property, demolished materials shall become General Contractor's property and shall be removed from Project site.

Historic items, relics, and similar objects including, but not limited to, cornerstones and their contents, commemorative plaques and tablets, antiques, and other items of interest or value to Owner that may be encountered during selective demolition remain Owner's property. Carefully remove and salvage each item or object in a manner to prevent damage and deliver promptly to Owner.

## SUBMITTALS

Qualification Data: For firms and persons specified in "Quality Assurance" Article to demonstrate their capabilities and experience. Include lists of completed projects with project names and addresses, names and addresses of architects and owners, and other information specified.

Schedule of Selective Demolition Activities: Indicate the following:

- Detailed sequence of selective demolition and removal work, with starting and ending dates for each activity.
- Interruption of utility services.
- Coordination for shutoff, capping, and continuation of utility services.
- Locations of temporary partitions and means of egress.

## QUALITY ASSURANCE

Demolition Firm Qualifications: An experienced firm that has specialized in demolition work similar in material and extent to that indicated for this Project.

Regulatory Requirements: Comply with governing EPA notification regulations before beginning selective demolition. Comply with hauling and disposal regulations of authorities having jurisdiction.

- Inspect and discuss condition of construction to be selectively demolished.
- Review structural load limitations of existing structure.
- Review and finalize selective demolition schedule and verify availability of materials, demolition personnel, equipment, and facilities needed to make progress and avoid delays.
- Review requirements of work performed by other trades that rely on substrates exposed by selective demolition operations.

## PROJECT CONDITIONS

Owner will continuously occupy the existing facility during the renovation and construction of this project.

Contractor must maintain access to existing public sidewalks.

Owner assumes no responsibility for condition of areas to be selectively demolished.

Conditions existing at time of inspection for bidding purpose will be maintained by Owner as far as practical.

Storage or sale of removed items or materials on-site will not be permitted.

Utility Service: Maintain existing utilities indicated to remain in service and protect them against damage during selective demolition operations.

Maintain fire-protection facilities in service during selective demolition operations.

## PART 2 - PRODUCTS

## REPAIR MATERIALS

Use repair materials identical to existing materials.

If identical materials are unavailable or cannot be used for exposed surfaces, use materials that visually match existing adjacent surfaces to the fullest extent possible.

Use materials whose installed performance equals or surpasses that of existing materials.

Comply with material and installation requirements specified in individual Specification Sections.

## PART 3 - EXECUTION

### EXAMINATION

Verify that utilities have been disconnected and capped.

Survey existing conditions and correlate with requirements indicated to determine extent of selective demolition required.

Inventory and record the condition of items to be removed and reinstalled and items to be removed and salvaged.

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.

### UTILITY SERVICES

Existing Utilities: Maintain services indicated to remain and protect them against damage during selective demolition operations.

Do not interrupt existing utilities serving occupied or operating facilities unless authorized in writing by Owner and authorities having jurisdiction. Provide temporary services during interruptions to existing utilities, as acceptable to Owner and to authorities having jurisdiction.

Provide at least 48 hours' notice to Owner if shutdown of service is required during changeover.

Utility Requirements: Locate, identify, disconnect, and seal or cap off indicated utilities serving areas to be selectively demolished.

Arrange to shut off indicated utilities with utility companies.

If utility services are required to be removed, relocated, or abandoned, before proceeding with selective demolition provide temporary utilities that bypass area of selective demolition and that maintain continuity of service to other parts of building.

Cut off pipe or conduit in walls or partitions to be removed. Cap, valve, or plug and seal remaining portion of pipe or conduit after bypassing.

Utility Requirements: Refer to Division 15 and 16 Sections for shutting off, disconnecting, removing, and sealing or capping utilities. Do not start selective demolition work until utility disconnecting and sealing have been completed and verified in writing.

## PREPARATION

**Site Access and Temporary Controls:** Conduct selective demolition and debris-removal operations to ensure minimum interference with roads, streets, walks, walkways, and other adjacent occupied and used facilities.

Do not close or obstruct streets, walks, walkways, or other adjacent occupied or used facilities without permission from Owner and authorities having jurisdiction. Provide alternate routes around closed or obstructed traffic ways if required by governing regulations.

Erect temporary protection, such as walks, fences, railings, canopies, and covered passageways, where required by authorities having jurisdiction.

Protect existing site improvements, appurtenances, and landscaping to remain.

Erect a plainly visible fence around drip line of individual trees or around perimeter drip line of groups of trees to remain.

Temporary Facilities: Provide temporary barricades and other protection required to prevent injury to people and damage to adjacent buildings and facilities to remain.

Provide protection enclosure to ensure safe passage of people around selective demolition area and to and from occupied portions of building.

Provide temporary weather protection, during interval between selective demolition of existing construction on exterior surfaces and new construction, to prevent water leakage and damage to structure and interior areas.

Protect walls, ceilings, floors, and other existing finish work that are to remain or that are exposed during selective demolition operations.

Temporary Enclosures: Provide temporary enclosures for protection of existing building and construction, in progress and completed, from exposure, foul weather, other construction operations, and similar activities. Provide temporary weathertight enclosure for building exterior.

Where heating or cooling is needed and permanent enclosure is not complete, provide insulated temporary enclosures. Coordinate enclosure with ventilating and material drying or curing requirements to avoid dangerous conditions and effects.

Remove debris from elevated portions of building by chute, hoist, or other device that will convey debris to grade level in a controlled descent.

Cleaning: Clean adjacent structures and improvements of dust, dirt, and debris caused by selective demolition operations. Return adjacent areas to condition existing before selective demolition operations began.

## SELECTIVE DEMOLITION



General: Demolish and remove existing construction only to the extent required by new construction and as indicated. Use methods required to complete the Work within limitations of governing regulations and as follows:

- Proceed with selective demolition systematically, from higher to lower level. Complete selective demolition operations above each floor or tier before disturbing supporting members on the next lower level.
- 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.
- Cut or drill from the exposed or finished side into concealed surfaces to avoid marring existing finished surfaces.
- 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 **fire watch** and portable fire-suppression devices during flame-cutting operations.
- Maintain adequate ventilation when using cutting torches.
- Remove decayed, vermin-infested, or otherwise dangerous or unsuitable materials and promptly dispose of off-site.
- Remove structural framing members and lower to ground by method suitable to avoid free fall and to prevent ground impact or dust generation.
- Locate selective demolition equipment and remove debris and materials so as not to impose excessive loads on supporting walls, floors, or framing.
- Dispose of demolished items and materials promptly.
- Return elements of construction and surfaces that are to remain to condition existing before selective demolition operations began.

Removed and Salvaged Items: Comply with the following:

- Clean salvaged items.
- Store items in a secure area until delivery to Owner.

Removed and Reinstalled Items: Comply with the following:

- Clean and repair items to functional condition adequate for intended reuse. Paint equipment to match new equipment.
- Protect items from damage during transport and storage.
- Reinstall items in locations indicated. Comply with installation requirements for new materials and equipment. Provide connections, supports, and miscellaneous materials necessary to make item functional for use indicated.

Concrete: Demolish in small sections. Cut concrete to a depth of at least 1 inch at junctures with construction to remain, using power-driven saw. Dislodge concrete from reinforcement at perimeter of areas being demolished, cut reinforcement, and then remove remainder of concrete indicated for selective demolition. Neatly trim openings to dimensions indicated.

Concrete: Demolish in sections. Cut concrete full depth at junctures with construction to remain and at regular intervals, using power-driven saw, then remove concrete between saw cuts.

Masonry: Demolish in small sections. Cut masonry at junctures with construction to remain, using power-driven saw, then remove masonry between saw cuts.

Concrete Slabs-on-Grade: Saw-cut perimeter of area to be demolished, then break up and remove.

Resilient Floor Coverings: Remove floor coverings and adhesive according to recommendations in RFCI-WP and its Addendum.

Remove residual adhesive and prepare substrate for new floor coverings by one of the methods recommended by RFCI.

Roofing: Remove no more existing roofing than can be covered in one day by new roofing. Refer to applicable Division 7 Section for new roofing requirements.

Air-Conditioning Equipment: Remove equipment without releasing refrigerants.

### PATCHING AND REPAIRS

General: Promptly repair damage to adjacent construction caused by selective demolition operations.

Patching: Comply with Division 1 Section "Cutting and Patching."

Repairs: Where repairs to existing surfaces are required, patch to produce surfaces suitable for new materials.

Completely fill holes and depressions in existing masonry walls that are to remain with an approved masonry patching material applied according to manufacturer's written recommendations.

Finishes: Restore exposed finishes of patched areas and extend restoration into adjoining construction in a manner that eliminates evidence of patching and refinishing.

Floors and Walls: Where walls or partitions that are demolished extend one finished area into another, patch and repair floor and wall surfaces in the new space. Provide an even surface of uniform finish color, texture, and appearance. Remove existing floor and wall coverings and replace with new materials, if necessary, to achieve uniform color and appearance.

Patch with durable seams that are as invisible as possible. Provide materials and comply with installation requirements specified in other Sections of these Specifications.

Where patching occurs in a painted surface, apply primer and intermediate paint coats over patch and apply final paint coat over entire unbroken surface containing patch. Provide additional coats until patch blends with adjacent surfaces.

Where feasible, test and inspect patched areas after completion to demonstrate integrity of installation.

Ceilings: Patch, repair, or re-hang existing ceilings as necessary to provide an even-plane surface of uniform appearance.

### DISPOSAL OF DEMOLISHED MATERIALS

General: Promptly dispose of demolished materials. Do not allow demolished materials to accumulate on-site.

Burning: Do not burn demolished materials.

Disposal: Transport demolished materials off Owner's property and legally dispose of them.

END OF SECTION 01732

## SECTION 01740 - WARRANTIES AND BONDS

### PART 1 - GENERAL

#### RELATED DOCUMENTS

Drawings and general provisions of Contract, including General and Supplementary Conditions and other Division-1 Specification Sections, apply to this Section.

The warranty period for this project is one (1) year unless more is indicated in the individual sections of this specification. Nothing implied by this warranty period exempts the Owner from other warranty and legal rights that he may apply to work quality issues.

#### SUMMARY

This Section specifies general administrative and procedural requirements for warranties and bonds required by the Contract Documents, including manufacturers standard warranties on products and special warranties.

Refer to the General Conditions for terms of the General Contractor's special warranty of workmanship and materials.

General closeout requirements are included in Section "Project Closeout."

Specific requirements for warranties for the Work and products and installation that are specified to be warranted, are included in the individual Sections of Divisions-2 through -16.

Certifications and other commitments and agreements for continuing services to Owner are specified elsewhere in the Contract Documents.

Disclaimers and Limitations: Manufacturer's disclaimers and limitations on product warranties do not relieve the General Contractor of the warranty on the Work that incorporates the products, nor does it relieve suppliers, manufacturers, and subcontractors required to countersign special warranties with the Prime Contractor.

#### DEFINITIONS

Standard Product Warranties are preprinted written warranties published by individual manufacturers for particular products and are specifically endorsed by the manufacturer to the Owner.

Special Warranties are written warranties required by or incorporated in the Contract Documents, either to extend time limits provided by standard warranties or to provide greater rights for the Owner.

#### WARRANTY REQUIREMENTS

Related Damages and Losses: When correcting warranted Work that has failed, remove and replace other Work that has been damaged as a result of such failure or that must be removed and replaced to provide access for correction of warranted Work.

Reinstatement of Warranty: When Work covered by a warranty has failed and been corrected by replacement or rebuilding, reinstate the warranty by written endorsement. The reinstated warranty shall be equal to the original warranty with an equitable adjustment for depreciation.

Replacement Cost: Upon determination that Work covered by a warranty has failed, replace or rebuild the Work to an acceptable condition complying with requirements of Contract Documents. The Prime Contractor(s) is responsible for the cost of replacing or rebuilding defective Work regardless of whether the Owner has benefited from use of the Work through a portion of its anticipated useful service life.

Owner's Recourse: Written warranties made to the Owner are in addition to implied warranties, and shall not limit the duties, obligations, right and remedies otherwise available under the law, nor shall warranty periods be interpreted as limitations on time in which the Owner can enforce such other duties, obligations, rights, or remedies.

Rejection of Warranties: The Owner reserves the right to reject warranties and to limit selections to products with warranties not in conflict with requirements of the Contract Documents.

## SUBMITTALS

Submit written warranties to the Architect prior to the date certified for Substantial Completion. If the Architect's Certificate of Substantial Completion designates a commencement date for warranties other than the date of Substantial Completion for the Work, or a designated portion of the Work, submit written warranties upon request of the Architect.

When a designated portion of the Work is completed and occupied or used by the Owner, by separate agreement with the Prime Contractor(s) during the construction period, submit properly executed warranties to the Architect within fifteen days of completion of that designated portion of the Work.

When a special warranty is required to be executed by the General Contractor, or the Sub Contractor(s), supplier(s) or manufacturer(s), prepare a written document that contains appropriate terms and identification, ready for execution by the required parties. Submit a draft to the Owner through the Architect for approval prior to final execution.

Refer to individual Sections of Divisions-2 through -16 for specific content requirements, and particular requirements for submittal of special warranties.

## PART 2 - PRODUCTS (not applicable).

## PART 3 - EXECUTION

Additional requirements for warranties and bonds on products and installation are found in their applicable sections of the specifications.

End of SECTION 01740

**CONTRACTOR'S GENERAL WARRANTY/CERTIFICATION**

(Name of Project)

(Address)

(Name of Contract)

The undersigned Contractor hereby warrants, in accordance with the applicable provisions and terms set forth in the Contract Documents, all materials and workmanship incorporated in the (name of contract) contract for (name of project) located in (project address) against any and all defects due to faulty materials or workmanship or negligence for a period of 12 months, or such longer periods as set forth in the Contract Documents, from the effective date of this warranty.

This Warranty shall be binding where defects occur due to normal usage conditions and does not cover willful or malicious damage, damage caused by acts of God or other casualty beyond the control of the Contractor.

This Warranty shall be in addition to other warranties and guarantees set forth in the Contract Documents, and shall not act to constitute a waiver of additional protection of the Owner afforded, where applicable, by consumer protection and product liability provisions of law, and these stipulations shall not constitute waiver of any additional rights or remedies available to the Owner under the law.

The undersigned Contractor also hereby certifies that to the best of his/her knowledge, information and belief, no asbestos, lead or other hazardous materials have been utilized in this project.

Signed: \_\_\_\_\_

(Corporate Seal)

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

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

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

Subscribed and sworn before me this  
\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_.

\_\_\_\_\_  
(Notary Public)

## SECTION 03451 – CAST STONE

### PART 1 - GENERAL

#### RELATED DOCUMENTS

Drawings and general provisions of Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

#### SUMMARY

This Section includes architectural cast stone.

Architectural cast stone includes the following:

Plain smooth-faced “limestone white” cast stone units indicated as

**Two square column caps for two brick exterior columns and as indicated on the elevations and building sections.**

**And other items indicated** on drawings.

Related Sections: The following sections contain requirements that relate to this section:

Mortar, Masonry Grout and Unit Masonry Assemblies are specified in Division 4.

Caulking, sealants, and gaskets are specified in Division 7.

#### SUBMITTALS

General: Submit the following in accordance with Conditions of Contract and Division 1 Specification Sections.

Manufacturer’s Qualification Data: Documentation showing compliance with specified requirements.

Product data and instructions for manufactured materials and products. Include mix designs, certifications, and laboratory test reports as required.

Include water absorption test reports for units with exterior exposure.

Shop drawings prepared by or under supervision of a qualified professional engineer showing complete information for fabrication and installation of precast concrete units. Indicate member dimensions and cross-section; fabrication tolerances; location, size, and type of reinforcement, including special reinforcement; and lifting devices necessary for handling and erection.

Indicate welded connections by AWS standard symbols. Detail inserts, connections, and joints, including accessories and construction at openings in precast units.

Show caulked joints, including expansion joints ("soft" type) and grouted joints ("rigid" type).

Show location and details of anchorage devices to be embedded in other construction.

Indicate protective finishes for metal items including connectors.

Samples approximately 6 by 16 by 2 inches to illustrate quality, color, and texture of surface finish.

## REFERENCES

ACI 318 – Building Code Requirements for Reinforced Concrete

ASTM A 185 – Standard Specification for Steel Welded Wire Reinforcement, Plain, for Concrete; 2002

ASTM A 615/A 615M – Standard Specification for Deformed and Plain Billet-Steel Bars for Concrete Reinforcement; 2004

ASTM 33 - Standard Specification for Concrete Aggregates; 2003

ASTM C 150 – Standard Specification for Portland Cement; 2002a

ASTM C 270 – Standard Specification for Mortar for Unit Masonry; 2003b

ASTM C 494/C 494M – Standard Specification for Chemical Admixtures to concrete; 2004

ASTM C 1364 – Standard Specifications for Architectural Cast Stone; 2003

## DESIGN REQUIREMENTS

**Please Note – Any supporting stainless steel anchors, angles, etc. beyond what is shown on drawings (See Wall Sections) must be coordinated with Cast Stone Supplier and included in General Contractor's base bid dollar amount.**

Design units to withstand design loads as calculate in accordance with North Carolina Sate Building Code and erection forces. Calculate structural properties of units in accordance with SCI 318.

Design units to withstand static loads and anticipated dynamic loading, including positive and negative wind loads and thermal movement loads.

Design and size components to withstand seismic loads and sway displacement as calculated in accordance with North Carolina State Building Code.

Design component connections to accommodate building movement and thermal movement. Provide adjustment to accommodate misalignment of structure without unit distortion or damage.

## QUALITY ASSURANCE

Engineer Qualifications: A professional engineer legally authorized to practice in jurisdiction where project is located and experienced in providing engineering services that have resulted in successful installation of architectural precast concrete units similar in material, design, and extent as required for this Project.

Fabricator Qualifications: A current producer member of the Cast Stone Institute or producer who *"adheres to the current requirements of the Cast Stone Institute."* Firm having a minimum of 5 years successful experience in fabrication of architectural precast concrete units, similar to members required for this project, will be acceptable. Fabricator must have sufficient production capacity to produce, transport, and deliver required units without causing delay in the work.

Motsinger Precast Products Winston Salem, NC 336-764-0350

Triad Masonry, Lexington. NC 336-238-1049

- Or equal meeting fabricator qualifications.

## DELIVERY, STORAGE, AND HANDLING



Deliver precast concrete units to project site in such quantities and at such times to assure continuity of installation. Store units at project site to prevent cracking, distorting, warping, staining, or other physical damage and so that markings are visible. Lift and support units only at designated lifting or supporting points as shown on final shop drawings.

## PART 2 - PRODUCTS

### ARCHITECTURAL CAST STONE

Cast Stone: Architectural concrete product manufactured to simulate appearance of natural limestone, complying with ASTM C 1364.

Compressive Strength: As specified in ASTM C 1364; calculate strength of pieces to be field cut at 80 percent of uncut piece.

Freeze-Thaw Resistance: Demonstrated by laboratory testing in accordance with ASTM C 1364.

Surface texture: Fine grained texture with no bug holes, air voids or other surface blemishes visible from distance of 10 feet.

Color: Selected by RBS Architects for **match to white ACM pearl white accent panels on the front facade**.

Remove cement film from exposed surfaces before packaging for shipment.

Shapes: Provide shapes as indicate don drawings.

Variation on Any Dimension, including Bow, Camber and Twist: Maximum of plus/minus 1/16 inch or length divided by 360, whichever is greater, but not more than 1/8 inch.

Unless otherwise indicated on drawings, provide:

Wash or slope of 1:12 on exterior horizontal surfaces,

Drips on all projecting components, wherever possible,

Raised fillets at back of sills and at ends to be built in.

Reinforcement: Provide reinforcement as required ot withstand handling and structural stresses; comply with ACI 318.

### MATERIALS

Portland Cement: ASTM C 150

For Units: Type I or II, white.

For Mortar: Type I or II, except Type III may be used in cold weather.

Coarse Aggregate: ASTM C 33, except for gradation; granite, quartz or limestone.

Fine Aggregate: ASTM C 33, except for gradation; natural or manufactured sands.

Admixtures: ASTM C 494/C 494M.

Water: Potable.

Reinforcing Bars: ASTM A 615/A 615M deformed bars, galvanized or epoxy coated.

Steel Welded Wire Reinforcement: ASTM A 185, galvanized or epoxy coated.

Embedded Anchors, Dowels, and Inserts: Type 304 stainless steel of type and size as required for conditions.

Mortar: Portland cement-lime, ASTM C 270, Type N; do not use masonry cement.

Sealant: As specified in Division 7.

Cleaner: General purpose cleaner designed for removing mortar and grout stains, efflorescence and other construction stains from new masonry surfaces without discoloring or damaging masonry surfaces; approved for intended use by cast stone manufacturer and by cleaner manufacturer for use on cast stone and adjacent masonry materials.

### PART 3 - EXECUTION

#### EXAMINATION

Examine construction to receive cast stone components. Notify Architect if construction is not acceptable.

Do not begin installation until unacceptable conditions have been corrected.

#### INSTALLATION

Install cast stone components in conjunction with masonry, complying with requirements of Division 4.

Erect units level and plumb within allowable tolerances.

Align and maintain uniform horizontal and vertical joints as erection progresses.

Mechanically anchor cast stone units indicated; set remainder in mortar.

#### Setting:

Drench cast stone components with clear, running water immediately before installation.

Set units in full bed mortar unless otherwise detailed.

Fill vertical joints with mortar.

Fill dowel holes and anchor slots completely with mortar or non-shrink grout.

Joints: Make all joints 3/8 inch, except as otherwise detailed.

Rake mortar joints 3/4 inch for pointing. Scrub face of each stone to remove excess mortar before it sets.

Point joints with mortar in layers 3/8 inch thick and tool to a slight concave profile.

Leave the following joints open for sealant:

Head joints in top courses, including copings, parapets, cornices, sills and steps.

Joints in projection units.

Joints between rigidly anchored units, including soffits, panels and column covers.

Joints below lugged sills and stair treads.

Joints below ledge and relieving angles.

Joints labeled "expansion joints".

Sealant Joints: Install sealants as specified Division 7.

#### Installation Tolerances:

Variation from Plumb: Not more than 1/16 inch in 10 feet or 1/8 inch in 20 feet or more.

Variation from Level: Not more than 1/16 inch in 10 feet or 1/8 inch in 20 feet, or ¼ inch maximum.

Variation in Joint Width: Not more than 1/8 inch in 36 inches or ¼ of nominal joint width, whichever is less.

Variation in Plane Between Adjacent Surfaces (Lipping): Not more than 1/16 inch difference between planes of adjacent units or adjacent surfaces indicated to be flush with units.

#### CLEANING AND PROTECTION

Repair chips and other surface damage noticeable when viewed in daylight at 10 feet.

Repair with matching touchup material provided by the manufacturer and in accordance with manufacturer instructions.

**Repair methods and results are subject to RBS Architects, Inc. approval.**

Clean exposed cast stone after mortar is thoroughly set and cured.

Wet surface with water before applying cleaner.

Apply cleaner to cast stone in accordance with manufacturers instructions.

Remove cleaner promptly by rinsing thoroughly with clear water.

Do not use acidic cleaners.

Protect form splashing by mortar and other damage.

END OF SECTION 03451



## SECTION 04200 - UNIT MASONRY

### PART 1 - GENERAL

#### RELATED DOCUMENTS

Drawings and general provisions of Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

#### SUMMARY

This Section includes the following:

Concrete unit masonry. (standard units).

Clay unit masonry in the form of brick-

Brick unit masonry for veneered and infill masonry applications.

Typical Face Brick – Match Existing Red Utility Brick Veneer

Clay unit masonry in the form of special shapes.

NOTE: Special shapes (including solids) are part of base bid price and unit costs are not covered by the brick allowance.

Products installed but not furnished under this Section include the following:

Steel lintels in unit masonry are specified in Division 5 Section "Metal Fabrications."

Reglets in masonry joints for metal flashing are specified in Division 7 Section "Flashing and Sheet Metal."

#### SYSTEM PERFORMANCE REQUIREMENTS

Provide unit masonry that develops the following installed compressive strengths (f'm):

For clay unit masonry: As follows:

f'm = 2500 psi.

As indicated.

For concrete unit masonry: As follows:

f'm = 1500 psi.

As indicated.

#### SUBMITTALS

General: Submit the following in accordance with Conditions of Contract and Division 1 Specification Sections.

Product data for each different masonry unit, accessory, and other manufactured product indicated.

Shop drawings for reinforcing detailing fabrication, bending, and placement of unit masonry reinforcing bars. Comply with ACI 315 "Details and Detailing of Concrete Reinforcing" showing bar schedules, stirrup spacing, diagrams of bent bars, and arrangement of masonry reinforcement.

Samples for initial selection purposes of the following:

Unit masonry samples in small-scale form showing full extent of colors and textures available.

Cold-weather construction procedures evidencing compliance with requirements specified in referenced unit masonry standard.

Hot-weather construction procedures evidencing compliance with requirements specified in referenced unit masonry standard.

Results from tests and inspections performed by Owner's representatives will be reported promptly and in writing to Architect and Contractor.

### QUALITY ASSURANCE

Unit Masonry Standard: Comply with ACI 530.1/ASCE 6 "Specifications for Masonry Structures," except as otherwise indicated.

Fire Performance Characteristics: Where indicated, provide materials and construction identical to those of assemblies whose fire resistance has been determined per ASTM E 119 by a testing and inspecting organization, by equivalent concrete masonry thickness, or by another means, as acceptable to authorities having jurisdiction.

Single-Source Responsibility for Masonry Units: Obtain exposed masonry units of uniform texture and color, or a uniform blend within the ranges accepted for these characteristics, from one manufacturer for each different product required for each continuous surface or visually related surfaces.

Single-Source Responsibility for Mortar Materials: Obtain mortar ingredients of uniform quality, including color for exposed masonry, from one manufacturer for each cementitious component and from one source and producer for each aggregate.

### DELIVERY, STORAGE, AND HANDLING

Deliver masonry materials to project in undamaged condition.

Store and handle masonry units off the ground, under cover, and in a dry location to prevent their deterioration or damage due to moisture, temperature changes, contaminants, corrosion, and other causes. If units become wet, do not place until units are in an air-dried condition.

Store cementitious materials off the ground, under cover, and in dry location.

Store aggregates where grading and other required characteristics can be maintained and contamination avoided.

Store masonry accessories including metal items to prevent corrosion and accumulation of dirt and oil.

### PROJECT CONDITIONS

**Protection of Masonry: During erection, cover tops of walls, projections, and sills with waterproof sheeting at end of each day's work. Cover partially completed masonry when construction is not in progress.**

**Extend cover a minimum of 24 inches down both sides and hold cover securely in place.**

**Where one wythe of multiwythe masonry walls is completed in advance of other wythes, secure cover a minimum of 24 inches down face next to unconstructed wythe and hold cover in place.**

Do not apply uniform floor or roof loads for at least 12 hours and concentrated loads for at least 3 days after building masonry walls or columns.

Stain Prevention: Prevent grout, mortar, and soil from staining the face of masonry to be left exposed or painted. Remove immediately any grout, mortar, and soil that come in contact with such masonry.

Protect base of walls from rain-splashed mud and mortar splatter by means of coverings spread on ground and over wall surface.

Protect sills, ledges, and projections from mortar droppings.

Protect surfaces of window and door frames, as well as similar products with painted and integral finishes from mortar droppings.

### COLD WEATHER PROTECTION

Do not lay masonry units which are wet or frozen.

Remove any ice or snow formed on masonry bed by carefully applying heat until top surface is dry to the touch.

Remove masonry damaged by freezing conditions.

Perform the following construction procedures while the work is progressing. Temperature ranges indicated below apply to air temperatures existing at time of installation except for grout. For grout, temperatures ranges apply to anticipated minimum night temperatures. In heating mortar and grout materials, maintain mixing temperature selected within 10 degrees F.

40 degrees F to 34 degrees F:

Mortar: Heat mixing water to produce mortar temperature between 40 degrees F and 120 degrees F.

Grout: Follow normal masonry procedures.

34 degrees F or below:

**DISCONTINUE MASONRY WORK.**

Protect completed masonry and masonry not being worked on in the following manner. Temperature ranges indicated apply to mean daily air temperatures except for grouted masonry. For grouted masonry temperature ranges apply to anticipated minimum night temperatures.

40 degrees F to 34 degrees F:

Protect masonry from rain or snow for at least 24 hours by covering with weather-resistive membrane.

32 degrees F to 25 degrees F:

Completely cover masonry with weather-resistive membrane for at least 24 hours.

25 degrees F to 20 degrees F:

Completely cover masonry with weather-resistive insulative blankets or similar protection for at least 24 hours, 48 hours for grouted masonry.

Except as otherwise indicated, maintain masonry temperature above 32 degrees F (0 degrees C) for 24 hours using enclosures and supplementary heat, electric heating blankets, infrared lamps or other methods proved to be satisfactory. For grouted masonry maintain heated enclosure to 40 degrees F (4 degrees C) for at least 48 hours.

Hot-Weather Construction: Comply with referenced unit masonry standard.

## PART 2 - PRODUCTS

### MATERIALS, GENERAL

Comply with referenced unit masonry standard and other requirements specified in this Section applicable to each material indicated.

### CLAY MASONRY UNITS

General: Comply with the following requirements applicable to each form of brick required:

Provide special molded shapes where indicated and as follows:

For applications requiring brick of form, color, texture, and size on exposed surfaces that cannot be produced by sawing standard brick sizes.

Provide units without cores or frogs and with all exposed surfaces finished for ends of sills, caps, and similar applications that expose brick surfaces that otherwise would be concealed from view.

Face Brick Standard: ASTM C 216 and as follows:

Grade and Unit Compressive Strength: Provide units of grade and minimum average net area compressive strength indicated below:

Grade SW.  
3000 psi.

Type FBS (for general use in exposed masonry requiring wider variations in size and color ranges than Type FBX).

Size: Provide bricks manufactured to the following actual dimensions within the tolerances specified in ASTM C 216:

Standard Utility: 3-5/8 inches thick by 3-5/8 inches high by 11-5/8" long

Application: Use where brick is exposed, unless otherwise indicated.

Color: **"Match existing red brick color and texture"**

Building (Common) Brick: ASTM C 62, and as follows:

Grade and Unit Compressive Strength: Provide units of grade and minimum average net area compressive strength indicated below:

Grade SW.  
3000 psi.

Size: Provide bricks manufactured to the following actual dimensions within the tolerances specified in ASTM C 216:

Standard Modular: 3-5/8 inches thick by 2-1/4 inches high by 7-5/8 inches long.

Application: Use where brick is indicated for concealed locations.

## CONCRETE MASONRY UNITS

General: Comply with requirements indicated below applicable to each form of concrete masonry unit required.

Provide special shapes where indicated and as follows:

For lintels, corners, jambs, sash, control joints, headers, bonding, and other special conditions.

Size: Provide concrete masonry units complying with requirements indicated below for size that are manufactured to specified face dimensions within tolerances specified in the applicable referenced ASTM specification for concrete masonry units.

Concrete Masonry Units: Manufactured to specified dimensions of 3/8 inch less than nominal widths by nominal heights by nominal lengths indicated on drawings.

Concrete Building Brick: Specified dimensions as follows:

Standard Modular: 3-5/8 inches wide by 2-1/4 inches high by 7-5/8 inches long.

Provide Type I, moisture-controlled units.

Exposed Faces: Manufacturer's standard color and texture, unless otherwise indicated.

Standard aggregate, ground finish.

Hollow Load-Bearing Concrete Masonry Units: ASTM C 90, Grade N and as follows:

Unit Compressive Strength: Provide units with minimum average net area compressive strength indicated below:

2000 psi.

Not less than the unit compressive strengths required to produce concrete unit masonry construction of compressive strength indicated.

Weight Classification: Lightweight.

Concrete Building Brick: ASTM C 55 and as follows:



Unit Compressive Strength: Provide units with minimum average net area compressive strength indicated below:

3500 psi.

Weight Classification: Lightweight.

### MORTAR AND GROUT MATERIALS

Comply with ASTM C 476 for grout for use in construction of reinforced and nonreinforced unit masonry.

Portland Cement: ASTM C 150, Type I or II, except Type III may be used for cold-weather construction. **Provide natural color cement.**

**Mortar for this project shall be Standard, Type-S mortar. (Colored Mortar is not required)**

Sand shall meet the requirements of Standard Specifications for Aggregate for Masonry Mortar (ASTM C-144-81), with the gradation to satisfy paragraph 4, Grading, and with the omission of sub-paragraph 4.4.

Ready-Mixed Mortar: Cementitious materials, water, and aggregate complying with requirements specified in this article, combined with set-controlling admixtures to produce a ready-mixed mortar complying with ASTM C 1142.

Hydrated Lime: ASTM C 207, Type S.

Aggregate for Mortar: ASTM C 144, except for joints less than 1/4 inch use aggregate graded with 100 percent passing the No. 16 sieve.

Aggregate for Grout: ASTM C 404.

Water: Clean and potable.

### PREPACKAGED MORTAR CEMENTS

Prepackaged mortar cements may be used with the prior approval. The mortar cement shall be in accordance with ASTM C91-83, and meet the following minimum requirements.

Type S Mortar Cement: The masonry mortar made from the mortar cement shall have a compressive strength of 1800 psi minimum at 28 days when tested in accordance with ASTM C-270, with maximum air volume of 16%.

The mortar cement shall contain Portland cement, hydrated lime, plasticized admixtures and/or hydraulic hydrated lime. Mortar cements which contain other materials, including ground limestone, ground slag or other cementitious and non-cementitious materials, are not acceptable.

Instructions for mixing the mortar shall be published and accompany all shipments. The instructions shall be volumetric measurements, and shall be developed to show proper proportions of sand to one (1) bag of the prepackaged mortar cement with volume of water to produce a flow of the proper consistency.

Freeze-thaw resistance: The mortar cement shall comply with the following requirements when subjected to 50 cycles of the freeze-thaw test:

Loss of compressive strength	35.0% maximum
Loss of dry weight	1.0% maximum

The test specimen shall be made in accordance with ASTM C-91, Paragraphs 18, 19, and 20, and be tested in accordance with ASTM C-91, Paragraphs 22.1 and 22.2.1, and ASTM C-67, Paragraphs 8.1, 8.3, and 8.4.

## MEASUREMENTS AND MIXING

The method of measuring materials shall be by volume, and shall be such that the specified proportions of the mortar materials can be controlled and accurately maintained. A measuring device to make consistent volume measurements shall be used throughout the project. Measurement of sand by shovel shall not be permitted.

Mortar Mixer shall be paddle-type mechanical mixer. It shall be of such design and size to accommodate the mixing of the ingredients.

The mortar mixer shall be charged in this order: add approximately one-half the water required, one-half the sand, the cement and lime (or prepackaged mortar cement), the remaining amount of sand, and then sufficient water to bring the mix to desired consistency. Mortar shall be mixed for a minimum of five minutes after all materials have been charged into the mixer with all batches being mixed to the same consistency.

Mortars that have stiffened because of evaporation of water from the mortar may be retempered by adding water as frequently as needed to restore the required consistency. Mortars shall be used and placed in their final position within 2 hours after mixing. When the temperature is over 80 degrees F., the mortar shall be used within 1-1/2 hours after mixing. Mortar not used within the stated time periods shall be discarded.

## JOINT REINFORCEMENT, TIES AND ANCHORING DEVICES:

Materials: Comply with requirements indicated below for basic materials and with requirements indicated under each form of joint reinforcement, tie and anchor for size and other characteristics:

Zinc-Coated (galvanized) Steel Wire: ASTM A 82 for uncoated wire and with ASTM C 641 for zinc coating of class indicated below:

Class 1 (0.40 oz. per sq. ft. of wire surface).

Application: Use for masonry not exposed to exterior or earth.

Hot-Dip Galvanized Steel Wire: ASTM A 82 for uncoated wire and with ASTM A 153, Class B-3 for zinc coating applied after prefabrication into units.

Application: Use for masonry exposed to exterior and in contact with earth.

Zinc-Coated (Galvanized) Steel Sheet: Carbon steel with zinc coating complying with ASTM A 525, Coating Designation G90.

Application: For dovetail and anchors slots used in masonry and concrete not exposed to exterior or earth.

Hot-Dip Galvanized Carbon Steel Sheet: ASTM A 366, Class 2 or ASTM A 635; hot dip galvanized after fabrication to comply with ASTM A 153; Class B.

Application: For dovetail slots and anchors used in masonry and concrete exposed to exterior or in contact with earth.

## **For masonry veneer on metal stud framing provide type as follows:**

Masonry Veneer Anchors: One-piece unit, rib-stiffened steel sheet metal plate, pre-punched for nail or screw attachment through sheathing into metal framing, resist tension and compression forces perpendicular to plane of wall; 12 gage x 1" minimum width x length required to anchor into brick wythe 2-1/2" minimum.

Anchor spacing: Arrange anchors not more than 16" o.c. both vertically and horizontally to allow spacing of ties.

Available Products: Subject to compliance with requirements, masonry veneer anchors which may be incorporated in the work includes, but is not limited to, the following:

Hohmann & Barnard Inc. or approved equal.

Veneer Anchors 2-Seal Tie (tie, 1.5" washer and wire tie)

**Uses: Typical exterior brick veneer on metal stud framing.**

Hardware cloth: See drawings for indicated locations and applications. Hot dip mill-galvanized wire, 16 gauge 2 x 2 (1/2") mesh. Tie is 1" less than nominal width of unit or wall.

D/A WMT Wire Mesh Ties; Dur-O-Wall, Inc.  
269 Wire Mesh Ties; Heckman Building Products.

Anchor Bolts: Provide steel bolts with hex nuts and flat washers complying with ASTM A 307, Grade A, hot-dip galvanized to comply with ASTM C 153, Class C, in sizes and configurations indicated.

### **CONCEALED FLASHING MATERIAL**

Vinyl Sheet Flashing: Flexible sheet flashing especially formulated from virgin polyvinyl chloride with plasticizers and other modifiers to remain flexible and waterproof in concealed masonry applications, black in color and thickness indicated below.

Thickness: 30 mils.

Application: Use where flashing is fully concealed in masonry.

Adhesives for Flashings: Of type recommended by manufacturer of flashing material for use indicated.

### **MISCELLANEOUS MASONRY ACCESSORIES:**

Reinforcing Bars: Deformed steel, ASTM A 615, Grade 60 for bars No. 3 to No. 18.

Non-Metallic Expansion Joint Strips: Premolded, flexible filler strips complying with ASTM D 1056, Type 2 (Closed cell), Class A (cellular rubber and rubber-like materials with specific resistance to petroleum base oils), Grade 1 (Compression-deflection range of 2-5 psi), compressible up to 35%, of width and thickness indicated, formulated from the following material:

Neoprene.

Preformed Control Joint Gaskets: Material as indicated below, designed to fit standard sash block and to maintain lateral stability in masonry wall; size and configuration as indicated.

Styrene-Butadiene Rubber Compound: ASTM D 2000, Designation 2AA-805.

Polyvinyl Chloride: ASTM D 2287, General Purpose Grade, Type PVC-65406.

Face brick Expansion Joint Bridge: D/A by Dur-O-Wal, Inc.

Bond Breaker Strips: Asphalt-saturated organic roofing felt complying with ASTM D 226, Type I (No. 15 asphalt felt).

**Weepholes: Provide weepholes in masonry construction just above thru-wall flashing and at points indicated on drawing. At the ground level provide "open head joints" in brick at 2'-0" o.c. along the length of the wall. For all weep holes required above the ground level install weep ropes at 2'-0" o. c. above windows doors or other miscellaneous thru-wall flashing points**

Wicking Material: Material as indicated below in lengths required to produce a 2" exposure on exterior and 18' in cavity between wythes.

Fibrous glass rope.

### GROUT FOR UNIT MASONRY

Comply with ASTM C 476 for grout for use in construction of reinforced and nonreinforced unit masonry. Use grout of consistency indicated or if not otherwise indicated, of consistency (fine or coarse) at time of placement which will completely fill all spaces intended to receive grout.

Use fine grout in grout spaces less than 2" in horizontal direction, unless otherwise indicated.

Use coarse grout in grout spaces 2" or more in least horizontal dimension, unless otherwise indicated.

**Do not use calcium chloride in grout.**

### MASONRY CLEANERS:

Job-Mixed Detergent Solution: Solution of trisodium phosphate (1/2 cup dry measure) and laundry detergent (1/2 cup dry measure) dissolved in one gallon of water.

## PART 3 - EXECUTION

### INSTALLATION, GENERAL:

Wetting Clay Brick: Wet brick made from clay or shale that have ASTM C 67 initial rates of absorption (suction) of more than 30 grams per 30 sq. in. per minute. Use wetting methods that ensure each clay masonry unit being nearly saturated but surface dry when laid.

Do not wet concrete masonry units.

Cleaning Reinforcing: Before placing, remove loose rust, ice and other coatings from reinforcing.

Thickness: Build cavity and composite walls, floors and other masonry construction to the full thickness shown. Build single-wythe walls (if any) to the actual thickness of the masonry units, using units of nominal thickness indicated holding dimension to face or unit same as indicated on drawings.

Build chases and recesses as shown or required for the work of other trades. Provide not less than 8" of masonry between chase or recess and jamb of openings, and between adjacent chases and recesses.

Leave openings for equipment to be installed before completion of masonry work. After installation of equipment, complete masonry work to match work immediately adjacent to the opening.

Cut masonry units using motor-driven saws to provide clean, sharp, unchipped edges. Cut units as required to provide continuous pattern and to fit adjoining work. Use full-size units without cutting where possible.

Use dry cutting saws to cut concrete masonry units.

### CONSTRUCTION TOLERANCES:

Variation from Plumb: For vertical lines and surfaces of columns, walls and arises do not exceed 1/4" in 10', or 3/8" in a story height. For external corners, expansion joints, control joints and other conspicuous lines, do not exceed 1/4" in any story. For vertical alignment of head joints do not exceed plus or minus 1/4" in 10', 1/2" maximum.

Variation from Level: For bed joints and lines of exposed lintels, sills, parapets, horizontal grooves and other conspicuous lines, do not exceed 1/4" in any bay or 20' maximum, not 1/2" in 40' or more. For top surface of bearing walls do not exceed 1/8" between adjacent floor elements in 10' or 1/16" within width of a single unit.

Variation of Linear Building Line: For position shown in plain and related portion of columns, walls and partitions, do not exceed 1/2" in any bay or 20' maximum, or 3/4" in 40' or more.

Variation in Cross-Sectional Dimensions: For columns and thickness of walls, from dimensions shown, do not exceed minus 1/4" nor plus 1/2".

Variation in Mortar Joint Thickness: Do not exceed bed joint thickness indicated by more than plus or minus 1/8", with a maximum thickness limited to 1/2". Do not exceed head joint thickness indicated by more than plus or minus 1/8".

#### LAYING MASONRY WALLS:

Layout walls in advance for accurate spacing of surface bond patterns with uniform joint widths and to accurately locate opening, movement-type joints, returns and offsets. Avoid the use of less-than-half-size units at corners, jambs and wherever possible at other locations.

Lay-up walls to comply with specified construction tolerances, with courses accurately spaced and coordinated with other work.

Pattern Bond: Lay exposed masonry in the bond pattern shown or, if not shown, lay in running bond with vertical joint in each course centered on units in courses above and below. Lay concealed masonry with all units in a wythe in running bond or bonded by lapping not less than 2". Bond and interlock each course of each wythe at corners. Do not use units with less than nominal 4" horizontal face dimensions at corners or jambs.

Stopping and Resuming Work: Rack back 1/2-unit length in each course; do not tooth. Clean exposed surfaces of set masonry, wet units lightly (if required) and remove loose masonry units and mortar prior to laying fresh masonry.

Built-in Work: As the work progresses, build-in items specified under this and other sections of these specifications. Fill in solidly with masonry around built-in items.

Fill space between hollow metal frames and masonry solidly with mortar.

Where built-in items are to be embedded in cores of hollow masonry units, place a layer of metal lath in the joint below and rod mortar or grout into core.

Fill cores in hollow masonry units with grout 3 courses (24") under bearing plates, beams, lintels, posts and similar items, unless otherwise indicated.

#### MORTAR BEDDING AND JOINTING:

Lay solid brick-size masonry units with completely filled bed and head joint; butter ends with sufficient mortar to fill head joints and shove into place. Do not slush head joints.

Lay hollow concrete masonry units with full mortar coverage on horizontal and vertical face shells. Bed webs in mortar in starting course on footings and in all courses of piers, columns and pilasters, and where adjacent to cells or cavities to be reinforced or filled with concrete or grout. For starting course on footings where cells are not grouted, spread out full mortar bed including areas under cells.

Maintain joint widths shown, except for minor variations required to maintain bond alignment. If not shown, lay walls with 3/8" joints.

Cut joints flush for masonry walls which are to be concealed or to be covered by other materials, unless otherwise indicated.

Tool exposed joints slightly concave using a jointer larger than joint thickness, unless otherwise indicated.

Remove masonry units disturbed after laying; clean and reset in fresh mortar. Do not pound corners or jambs to shift adjacent stretcher units which have been set in position. If adjustments are required, remove units, clean off mortar and reset in fresh mortar.

Collar Joints: After each course is laid, fill in vertical longitudinal joint between wythes solidly and with mortar for the following masonry work:

Interior walls and partitions.

Exterior walls, except cavity walls.

Nonloadbearing interior walls or partitions where metal ties or horizontal reinforcing are indicated for structural bonding and nominal thickness of wall or partition is required to meet code requirements for height-to-thickness ratio.

#### STRUCTURAL BONDING OF MULTI-WYTHE MASONRY:

Use continuous horizontal joint reinforcement installed in horizontal mortar joints for bond tie between wythes. Install at not more than 16" o. c. vertically.

For horizontally reinforced masonry, provide continuity at corners with prefabricated "L" units, in addition to masonry bonding.

Intersecting and Abutting Walls: Unless vertical expansion or control joints are shown at juncture, provide same type of bonding specified for structural bonding between wythes and space as follows:

Provide continuity with horizontal joint reinforcement using prefabricated "T" units.

Non-bearing Interior Partitions: Build full height of story to underside of solid floor or roof structure above, unless otherwise shown. (See Wall Rating Legend on plan drawings to determine which walls are intended to run full height.)

Run non-bearing partitions (indicated to be full height) within 1" of structure above and secure against lateral movement with channel section width of wall x 1'-0" length spaced at 4'-0" o.c. unless detailed otherwise on drawings.

#### STRUCTURAL BONDING OF MULTI-WYTHE MASONRY:

Use continuous horizontal joint reinforcement installed in horizontal mortar joints for bond tie between wythes. Install at not more than 16" o.c. vertically.

For horizontally reinforced masonry, provide continuity at corners with prefabricated "L" units, in addition to masonry bonding.

Intersecting and Abutting Walls: Unless vertical expansion or control joints are shown at juncture, provide same type of bonding specified for structural bonding between wythes and space as follows:

Provide continuity with horizontal joint reinforcement using prefabricated "T" units.

Non-bearing Interior Partitions: Build full height of story to underside of solid floor or roof structure above, unless otherwise shown. (See section drawings to determine which walls are intended to run full height.)

Run non-bearing partitions (indicated to be full height) within 1" of structure above and secure against lateral movement with channel section width of wall x 1'-0" length spaced at 4'-0" o.c. unless detailed otherwise on drawings.

#### HORIZONTAL JOINT REINFORCEMENT:

General: Provide continuous horizontal joint reinforcement as indicated. Install longitudinal side rods in mortar for their entire length with a minimum cover of 5/8" exterior side of walls, 1/2" elsewhere. Lap reinforcing a minimum of 6".

Cut or interrupt joint reinforcement at control and expansion joints, unless otherwise indicated.

Reinforce walls with continuous horizontal joint reinforcing unless specifically noted to be omitted.

Provide continuity at corners and wall intersections by use of prefabricated "L" and "T" sections. Cut and bend reinforcement units as directed by manufacturer for continuity at returns, offsets, column fireproofing, pipe enclosures and other special conditions.

Space continuous horizontal reinforcement as follows:

For multi-wythe walls (solid or cavity), space reinforcement 16" o. c. vertically.

For single-wythe walls, space reinforcement at 16" o. c. vertically, unless otherwise indicated.

Reinforce masonry openings greater than 1'-0" wide, with horizontal joint reinforcement placed in 2 horizontal joints approximately 8" apart, immediately above the lintel and immediately below the sill. Extend reinforcement a minimum of 2'-0" beyond jambs of the opening except at control joints.

In addition to wall reinforcement, provide additional reinforcement at openings as required to comply with the above.

#### ANCHORING MASONRY WORK:

General: Provide anchor devices of type indicated.

Anchor Bolts: Steel bolts complying with ASTM A 307, Grade A (ASTM F 568, Property Class 4.6); with ASTM A 563 (ASTM A 563M) hex nuts and, where indicated, flat washers; hot-dip galvanized to comply with ASTM A 153, Class C; of diameter and length indicated and in the following configurations:

Headed Bolts.

Post-installed Anchors: Anchors as described below, with capability to sustain, without failure, load imposed within factors of safety indicated, as determined by testing per ASTM E 488, conducted by a qualified independent testing agency.

Type: Expansion Anchors.

Corrosion Protection: Stainless-steel components with ASTM F 593 and ASTM F 594, Alloy Group 1 or 2 (ASTM F 738M and ASTM F 836M, Alloy Group 1 or 4) for bolts and nuts; ASTM A 167 or ASTM A 276, Type 304 or 316, for anchors.

For Postinstalled Anchors in Grouted Concrete Masonry Units: Capability to sustain, without failure, a load equal to 6 times the loads imposed by masonry.

Installation of Anchor Bolts: Position fixture, drill hole. Insert anchor bolt, tap flush with fixture, and tighten.

Anchor masonry to structural members where masonry abuts or faces structural members to comply with the following:

Provide an open space not less than 1" in width between masonry and structural member, unless otherwise indicated. Keep open space free of mortar or other rigid materials.

Anchor masonry to structural members with flexible anchors embedded in masonry joints and attached to structure.

Space anchors as indicated, but not more than 24" o.c. vertically and 36" o.c. horizontally.

#### CONTROL AND EXPANSION JOINTS:

General: Provide vertical and horizontal expansion, control and isolation joints in masonry where shown. Build-in related items as the masonry work progresses.

Build-in non-metallic joint filler where indicated.

Build in vertical pressure relieving joints where indicated; construct joints by inserting non-metallic compressible joint filler of width required to permit installation of sealant and backer rod.

LINTELS:

Provide masonry lintels where shown or wherever openings of more than 1'-0" for brick size units and 2'-0" for block size units are shown without structural steel or other supporting lintels. Provide precast or formed-in-place masonry lintels. Cure precast lintels before handling and installation.

For hollow concrete masonry unit walls, use specially formed U-shaped lintel units with reinforcement bars placed as shown filled with coarse grout.

Provide minimum bearing of 8" at each jamb, unless otherwise indicated.

FLASHING OF MASONRY WORK:

General: Provide concealed flashing in masonry work at, or above, shelf angles, lintels, ledges and other obstructions to the downward flow of water in the wall so as to divert such water to the exterior. Prepare masonry surfaces smooth and free from projections which could puncture flashing. Place through-wall flashing on sloping bed of mortar and cover with mortar. Seal penetrations in flashing with mastic before covering with mortar. Extend flashings through exterior face of masonry.

Extend flashing the full length of lintels and shelf angles and minimum of 4" into masonry each end. Extend flashing from exterior face of outer wythe of masonry, through the outer wythe, turned up a minimum of 4", and through the inner wythe half the width of the inner wythe unit.

Install flashing to comply with manufacturer's installation.

Provide weep holes in the head joints of the first course of masonry immediately above concealed flashings. Space 2'-0" o. c., unless otherwise indicated. Trim wicking material used in weep holes flush with outside face of wall after mortar is set.

Install reglets and nailers for flashing and other related work where shown to be built into masonry work.

REPAIR, POINTING, AND CLEANING:

Remove and replace masonry units which are loose, chipped, broken, stained or otherwise damaged, or if units do not match adjoining units as intended. Provide new units to match adjoining units and install in fresh mortar or grout, pointed to eliminate evidence of replacement.

Pointing: During the tooling of joints, enlarge any voids or holes, except weep holes, and completely fill with mortar. Point-up all joints including corners, openings and adjacent work to provide a neat, uniform appearance, prepared for application of sealants.

Final Cleaning: After mortar is thoroughly set and cured, clean masonry as follows:

Remove large mortar particles by hand with wooden paddles and non-metallic scrape hoes or chisels.

Test cleaning methods on sample wall panel; leave 1/2 panel uncleaned for comparison purposes. Obtain Architect's approval of sample cleaning before proceeding with cleaning of masonry.

Protect adjacent stone and non-masonry surfaces from contact with cleaner by covering them with liquid strippable masking agent, polyethylene film or waterproof masking tape.

Saturate wall surfaces with water prior to application of cleaners; remove cleaners promptly by rinsing thoroughly with clear water.

Use bucket and brush hand cleaning method described in BIA "Technical Note No. 20 Revised" to clean brick masonry made from clay or shale, except use masonry cleaner indicated below.

Detergent.



Protection: Provide final protection and maintain conditions in a manner acceptable to Installer, which ensures unit masonry work being without damage and deterioration at time of substantial completion.

End of SECTION 04200



## SECTION 05400 – COLD-FORMED METAL FRAMING

### PART 1 - GENERAL

#### RELATED DOCUMENTS:

Drawings and general provisions of Contract, including General and Supplementary Conditions and Division-1 Specification sections, apply to work of this section.

#### DESCRIPTION OF WORK:

Extent of cold-formed framing is shown on drawings.

Types of lightgauge metal framing units include the following:

Locations: Exterior wall framing and ceiling/mechanical platform joist framing.

"C"-shaped steel studs.

"C"-shaped steel joists.

See Division 9 "Gypsum Drywall" section for interior nonstructural drywall partition metal stud framing.

#### SUBMITTALS:

Product Data: Submit manufacturer's product information and installation instructions for each item of cold-formed metal framing and accessories. Certify products manufactured in compliance with ASTM C 645, including requirements for minimum thickness.

Certificate of Compliance: Submit certificate evidencing compliance of studs and components and installation with referenced standards.

Shop Drawings: Submit shop drawings for special components and installations not fully dimensioned or detailed in manufacturer's product data.

Include placing drawings for framing members showing size and gage designations, number, type, location and spacing. Indicate supplemental strapping, bracing, splices, bridging, accessories, and details required for proper installation.

#### QUALITY ASSURANCE:

Component Design: Calculate structural properties of studs and joists in accordance with American Iron and Steel Institute (AISI) "Specification for Design of Cold-Formed Steel Structural Members".

Design Criteria: Cold-formed metal framing shall be designed to withstand wind pressures as stated in Section 1609 of the 2018 North Carolina Building Code for a minimum wind velocity of 120 mph. Increased pressures for height variation and applicable shape factors shall be included. The maximum allowable deflection for exterior studs shall be L/600 with deflection based on the section properties of the stud only.

Welding: Use qualified welders and comply with American Welding Society (AWS) D1.3, "Structural Welding Code - Sheet Steel."

#### DELIVERY, STORAGE AND HANDLING:

Protect metal framing units from rusting and damage. Deliver to project site in manufacturer's unopened containers or bundles, fully identified with name, brand, type and grade. Store off ground in a dry ventilated space or protect with breathable waterproof coverings.

#### PART 2 - PRODUCTS

##### METAL FRAMING:

System Components: Manufacturers; standard load-bearing steel studs and joists of type, size, shape, and gage as indicated. With each type of metal framing required, provide manufacturer's standard, steel runners (tracks), blocking, lintels, clip angles, shoes, reinforcements, fasteners, and accessories for applications indicated, as needed to provide a complete metal framing system. Studs and joist to be of "C" configuration with a minimum 1-5/8 inch flange and minimum 1/2 inch return lip. Runner tracks to be unpunched with 1-1/4 inch flanges unless noted otherwise.

##### Materials and Finishes:

For 18-gage (minimum gage allowed), fabricate metal framing components of commercial quality steel sheet with a minimum yield point of 33,000 psi; ASTM A 446, Grade A.

Provide galvanized finish to metal framing components complying with ASTM A 525 for minimum G 60 coating.

Finish of installation accessories to match that of main framing components.

"C"-Shape Studs: Manufacturer's standard load-bearing steel studs of size and shape, indicated, with 1.625" flange and flange return lip.

Available Manufacturers: Subject to compliance with requirements, manufacturers offering "C"-shaped, load-bearing steel studs which may be incorporated in the work include, but are not limited to, the following:

Alabama Metal Industries Corp.  
Clark Steel Framing Industries  
Consolidated, Systems, Inc  
Dale Industries, Inc.  
Dietrich Industries, Inc.  
Marino Ware; Division of Ware Industries, Inc.  
Unimast, Inc.  
United Metal Products, Inc  
Ceco Corp.  
Inryco/Milcor.  
U.S. Gypsum Co.

Joists: Manufacturer's standard C-shape sections of size and shape gage indicated.

Available Manufacturers: Subject to compliance with requirements, manufacturers offering "C"-shaped steel joists which may be incorporated in the work include, but are not limited to, the following:

Manufacturer: Subject to compliance with requirements, provide "C"-shaped steel joists of one of the following:

Ceco Corp.  
Inryco/Milcor.  
U.S. Gypsum or Equal

### FABRICATION:

General: Framing components may be prefabricated into panels prior to erection. Fabricate panels plumb, square, true to line and braced against racking with joints welded. Perform lifting of prefabricated panels in a manner to prevent damage or distortion.

Fastenings: Attach similar components by welding. Attach dissimilar components by welding, bolting, or screw fasteners, as standard with manufacturer.

Wire tying of framing components is not permitted.

Fabrication Tolerances: Fabricate panels to a maximum allowable tolerance variation from plumb, level, and true to line of 1/8" in 10'-0".

## PART 3 - EXECUTION

### INSPECTION AND PREPARATION:

Pre-Installation Conference: Prior to start of installation of metal framing systems, meet at project site with installers of other work including door and window frames and mechanical and electrical work. Review areas of potential interference and conflicts, and coordinate layout and support provisions for interfacing work.

### INSTALLATION:

Manufacturer's Instructions: Install metal framing systems in accordance with manufacturer's printed or written instructions and recommendations, unless otherwise indicated.

Runner Tracks: Install continuous tracks sized to match studs. Align tracks accurately to layout at base and tops of studs. Secure tracks as recommended by stud manufacturer for type of construction involved, except do not exceed 24" o.c. spacing for nail or power-driven fasteners, or 16" o.c. for other types of attachment. Provide fasteners at corners and ends of tracks.

Set studs plumb, except as needed for diagonal bracing or required for non-plumb walls or warped surfaces and similar requirements.

Where stud system abuts structural columns or walls, including masonry walls, anchor ends of stiffeners to supporting structure.

Install supplementary framing, blocking and bracing in metal framing system wherever walls or partitions are indicated to support fixtures, equipment, services, casework, heavy trim and furnishings, and similar

work requiring attachment to the wall or partition. Where type of supplementary support is not otherwise indicated, comply with stud manufacturer's recommendations and industry standards in each case, considering weight or loading resulting from item supported.

Installation of Wall Stud System: Secure studs to top and bottom runner tracks by either welding or screw fastening at both inside and outside flanges. Provide for vertical structural movement at the attachment points for the stud system at floors and roof.

Frame wall openings larger than 2'-0" square with double stud at each jamb of frame except where more than 2 are either shown or indicated in manufacturer's instructions. Install runner tracks and jack studs above and below wall openings. Anchor tracks to jamb studs with stud shoes or by welding, and space jack studs same as full-height studs of wall. Secure stud system wall opening frame in manner indicated.

Frame both sides of expansion and control joints, with separate studs; do not bridge the joint with components of stud system.

Install horizontal stiffeners in stud system, spaced (vertical distance) at not more than 4'-6" o.c. Weld at each intersection.

Installation of Joists: Install level and plumb, complete with bracing and reinforcing as indicated on drawings. Provide not less than 1-1/2" end bearing.

Reinforce ends with end clips, steel hangers, steel angle clips, steel stud section, end grain wood block, or as otherwise recommended by joist manufacturer.

Where required, reinforce joists at interior supports with single short length of joist section located directly over interior support, snap-on shoe, 30% side-piece lapped reinforcement, or other method recommended by joist manufacturer.

Secure joists to interior support systems to prevent lateral movement of bottom flange.

Erection Tolerances: Bolt or weld wall panels (at both horizontal and vertical Junctures) to produce flush, even, true-to-line joints.

Maximum variation in plane and true position between prefabricated assemblies should not exceed 1/16 inch.

Field Painting: Touch-up shop-applied protective coatings damaged during handling and installation. Use galvanizing repair paint for galvanized surfaces.

END OF SECTION 05400

## SECTION 05500 - METAL FABRICATIONS

### PART 1 - GENERAL

#### RELATED DOCUMENTS

Drawings and general provisions of Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to work of this Section.

#### SUMMARY

This section includes the following metal fabrications:

- Loose bearing and leveling plates.
- Loose steel lintels.
- Miscellaneous framing and supports for applications not specified in other sections.
- Suspension rods, connectors, and straps
- Miscellaneous steel trim.

**Note to Steel fabricators and Erectors: Miscellaneous steel angles and steel sub framing is utilized as support work through out the wall sections of the drawings. These miscellaneous steel pieces may or may not show up on the Structural drawings. Estimators must look through both architectural and Structural drawings to see the full extent of the work.**

Related Sections: The following sections contain requirements that relate to this section:

Division 5 Section "Structural Steel" for structural steel framing system components.

#### DEFINITIONS

Definitions in ASTM E 985 for railing-related terms apply to this section.

#### SYSTEM PERFORMANCE REQUIREMENTS

**Structural Performance:** Design, engineer, fabricate, and install the following metal fabrications to withstand the following structural loads without exceeding the allowable design working stress of the materials involved, including anchors and connections. Apply each load to produce the maximum stress in each respective component of each metal fabrication.

#### SUBMITTALS

**General:** Submit the following in accordance with Conditions of Contract and Division 1 Specification Sections.

Product data for products used in miscellaneous metal fabrications, including paint products and grout.

Shop drawings detailing fabrication and erection of each metal fabrication indicated. Include plans, elevations, sections, and details of metal fabrications and their connections. Show anchorage and accessory items. Provide templates for anchors and bolts specified for installation under other sections.

Samples representative of materials and finished products as may be requested by Architect.

Welder certificates signed by Contractor certifying that welders comply with requirements specified under "Quality Assurance" article.

Qualification data for firms and persons specified in “Quality Assurance” article to demonstrate their capabilities and experience. Include list of completed projects with project name, addresses, names of Architects and Owners, and other information specified.

### QUALITY ASSURANCE

Fabricator Qualifications: Firms experienced in successfully producing metal fabrications similar to that indicated for this Project, with sufficient production capacity to produce required units without causing delay in the Work.

### PROJECT CONDITIONS

Field Measurements: Check actual locations of walls and other construction to which metal fabrications must fit, by accurate field measurements before fabrication; show recorded measurements on final shop drawings. Coordinate fabrication schedule with construction progress to avoid delay of Work.

### SEQUENCING AND SCHEDULING

Sequence and coordinate installation of wall handrails as follows:

Mount handrails only on completed walls. Do not support handrails temporarily by any means not satisfying structural performance requirements.

## PART 2 - PRODUCTS

### FERROUS METALS

Metal Surfaces, General: For metal fabrications exposed to view upon completion of the Work, provide materials selected for their surface flatness, smoothness, and freedom from surface blemishes. Do not use materials whose exposed surfaces exhibit pitting, seam marks, roller marks, rolled trade names, roughness, and, for steel sheet, variations in flatness exceeding those permitted by reference standards for stretcher-leveled sheet.

Steel Plates, Shapes, and Bars: ASTM A 36.

Stainless Steel sheet, strip, rod, plate, flat bar: ASTM A 666, Type 304

Rolled Steel Floor Plates: ASTM A 786.

Steel Tubing: Product type (manufacturing method) and as follows:

Cold-Formed Steel Tubing: ASTM A 500, grade as indicated below:

Grade A, unless otherwise indicated or required for design loading.

Hot-Formed Steel Tubing: ASTM A 501.

For exterior installations and where indicated, provide tubing with hot-dip galvanized coating per ASTM A 53.

Uncoated Structural Steel Sheet: Product type (manufacturing method), quality, and grade, as follows:

Cold-Rolled Structural Steel Sheet: ASTM A 611, grade as follows:

Grade A, unless otherwise indicated or required by design loading.

Hot-Rolled Structural Steel Sheet: ASTM A 570, grade as follows:



Grade 30, unless otherwise indicated or required by design loading.

Uncoated Steel Sheet: Commercial quality, product type (method of manufacture) as follows:

Cold-Rolled Steel Sheet: ASTM A 366.

Hot-Rolled Steel Sheet: ASTM A 569.

Galvanized Steel Sheet: Quality as follows:

Structural Quality: ASTM A 446; Grade A, unless another grade required for design loading, and G90 coating designation unless otherwise indicated.

Steel Pipe: ASTM A 53; finish, type, and weight class as follows:

Black finish, unless otherwise indicated.

Galvanized finish for exterior installations and where indicated.

Type F, standard weight (schedule 40), unless otherwise indicated, or another weight, type, and grade required by structural loads.

Gray Iron Castings: ASTM A 48, Class 30.

Malleable Iron Castings: ASTM A 47, grade 32510.

Brackets, Flanges and Anchors: Cast or formed metal of the same type material and finish as supported rails, unless otherwise indicated.

Concrete Inserts: Threaded or wedge type; galvanized ferrous castings, either malleable iron, ASTM A 47, or cast steel, ASTM A 27. Provide bolts, washers, and shims as required, hot-dip galvanized per ASTM A 153.

Welding Rods and Bare Electrodes: Select in accordance with AWS specifications for the metal alloy to be welded.

Extruded Aluminum: ASTM B221, Alloy 6063 temperT-6.

## GROUT AND ANCHORING CEMENT

Nonshrink Nonmetallic Grout: Premixed, factory-packaged, nonstaining, noncorrosive, nongaseous grout complying with CE CRD-C 621. Provide grout specifically recommended by manufacturer for interior and exterior applications of type specified in this section.

Erosion-Resistant Anchoring Cement: Factory-prepackaged, nonshrink, nonstaining, hydraulic controlled expansion cement formulation for mixing with water at Project site to create pourable anchoring, patching, and grouting compound. Provide formulation that is resistant to erosion from water exposure without need for protection by a sealer or waterproof coating and is recommended for exterior use by manufacturer.

Available Products: Subject to compliance with requirements, products that may be incorporated in the Work include but are not limited to the following:

### Nonshrink Nonmetallic Grouts:

“Euco N-S Grout”; Euclid Chemical Co.

“Kemset”; Chem-Masters Corp.

“Masterflow 713”; Master Builders.

“Sonogrout”; Sonneborn Building Products Div., Rexnord Chemical Products, Inc.

“Stoncrete NM1”; Stonhard, Inc.

“Five Star Grout”; U.S. Grout Corp.

### Erosion-Resistant Anchoring Cement:

“Super Por-Rok”; Minwax Construction Products Division.

## FASTENERS

General: Provide zinc-coated fasteners for exterior use or where built into exterior walls. Select fasteners for the type, grade, and class required.

Bolts and Nuts: Regular hexagon head type, ASTM A 307, Grade A.

Lag Bolts: Square head type, FS FF-B-561.

Machine Screws: Cadmium plated steel, FS FF-S-92.

Wood Screws: Flat head carbon steel, FS FF-S-111.

Plain Washers: Round, carbon steel, FS FF-W-92.

Drilled-In Expansion Anchors: Expansion anchors complying with FS FF-S-325, Group VIII (anchors, expansion, [nondrilling]), Type I (internally threaded tubular expansion anchor); and machine bolts complying with FS FF-B-575, Grade 5.

Toggle Bolts: Tumble-wing type, FS FF-B-588, type, class, and style as required.

Lock Washers: Helical spring type carbon steel, FS FF-W-84.

## PAINT

Shop Primer for Ferrous Metal: Manufacturer's or fabricator's standard, fast-curing, lead-free, universal modified alkyd primer selected for good resistance to normal atmospheric corrosion, for compatibility with finish paint systems indicated, and for capability to provide a sound foundation for field-applied topcoats despite prolonged exposure complying with performance requirements of FS TT-P-645.

Bituminous Paint: Cold-applied asphalt mastic complying with SSPC-Paint 12 except containing no asbestos fibers.

Zinc Chromate Primer: FS TT-P-645.

## FABRICATION, GENERAL

Form metal fabrications from materials of size, thickness, and shapes indicated but not less than that needed to comply with performance requirements indicated. Work to dimensions indicated or accepted on shop drawings, using proven details of fabrication and support. Use type of materials indicated or specified for various components of each metal fabrication.

Form exposed work true to line and level with accurate angles and surfaces and straight sharp edges.

Allow for thermal movement resulting from the following maximum change (range) in ambient temperature in the design, fabrication, and installation of installed metal assemblies to prevent buckling, opening up of joints, and overstressing of welds and fasteners. Base design calculations on actual surface temperatures of metals due to both solar heat gain and nighttime sky heat loss.

Temperature Change (Range): 100 deg F (55.5 deg C).

Shear and punch metals cleanly and accurately. Remove burrs.

Ease exposed edges to a radius of approximately 1/32 inch, unless otherwise indicated. Form bent-metal corners to smallest radius possible without causing grain separation or otherwise impairing work.

Remove sharp or rough areas on exposed traffic surfaces.

Weld corners and seams continuously to comply with AWS recommendations and the following:

Use materials and methods that minimize distortion and develop strength and corrosion resistance of base metals.

Obtain fusion without undercut or overlap.

Remove welding flux immediately.

At exposed connections, finish exposed welds and surfaces smooth and blended so that no roughness shows after finishing and contour of welded surface matches those adjacent.  
Form exposed connections with hairline joints, flush and smooth, using concealed fasteners wherever possible. Use exposed fasteners of type indicated or, if not indicated, Phillips flat-head (countersunk) screws or bolts. Locate joints where least conspicuous.

Provide for anchorage of type indicated; coordinate with supporting structure. Fabricate and space anchoring devices to provide adequate support for intended use.

Shop Assembly: Preassemble items in shop to greatest extent possible to minimize field splicing and assembly. Disassemble units only as necessary for shipping and handling limitations. Use connections that maintain structural value of joined pieces. Clearly mark units for reassembly and coordinated installation.

Cut, reinforce, drill and tap miscellaneous metal work as indicated to receive finish hardware, screws, and similar items.

Fabricate joints that will be exposed to weather in a manner to exclude water, or provide weep holes where water may accumulate.

### LOOSE BEARING AND LEVELING PLATES

Provide loose bearing and leveling plates for steel items bearing on masonry or concrete construction, made flat, free from warps or twists, and of required thickness and bearing area. Drill plates to receive anchor bolts and for grouting as required. Galvanize after fabrication.

### LOOSE STEEL LINTELS

Fabricate loose structural steel lintels from steel angles and shapes of size indicated for openings and recesses in masonry walls and partitions at locations indicated.

Weld adjoining members together to form a single unit where indicated.

Size loose lintels for equal bearing of one inch per foot of clear span but not less than 8 inches bearing at each side of openings, unless otherwise indicated.

Galvanize loose steel lintels located in exterior walls.

### MISCELLANEOUS FRAMING AND SUPPORTS

General: Provide steel framing and supports for applications indicated or which are not a part of structural steel framework, as required to complete work.

Fabricate units to sizes, shapes, and profiles indicated and required to receive adjacent other construction retained by framing and supports. Fabricate from structural steel shapes, plates, and steel bars of welded construction using mitered joints for field connection. Cut, drill, and tap units to receive hardware, hangers, and similar items.

Equip units with integrally welded anchors for casting into concrete or building into masonry. Furnish inserts if units must be installed after concrete is placed.

Except as otherwise indicated, space anchors 24 inches o.c. and provide minimum anchor units in the form of steel straps 1-1/4 inches wide x 1/4 inch x 8 inches long.

### MISCELLANEOUS STEEL TRIM

Provide shapes and sizes indicated for profiles shown. Unless otherwise indicated, fabricate units from structural steel shapes, plates, and steel bars, with continuously welded joints and smooth exposed edges. Use concealed field splices wherever possible. Provide cutouts, fittings, and anchorages as required for coordination of assembly and installation with other work.

Galvanize miscellaneous framing and supports in the following locations:

Exterior locations.

Interior locations where indicated.

### FINISHES, GENERAL

Comply with NAAMM “Metal Finishes Manual” for recommendations relative to application and designations of finishes.

Finish metal fabrications after assembly.

### STEEL AND IRON FINISHES

Galvanizing: For those items indicated for galvanizing, apply zinc-coating by the hot-dip process compliance with the following requirements:

ASTM A 153 for galvanizing iron and steel hardware.

Preparation for Shop Priming: Prepare uncoated ferrous metal surfaces to comply with minimum requirements indicated below for SSPC surface preparation specifications and environmental exposure conditions of installed metal fabrications:

Interiors (SSPC Zone 1A): SSPC-SP3 “Power Tool Cleaning.”

Apply shop primer to uncoated surfaces of metal fabrications, except those with galvanized finish or to be embedded in concrete, sprayed-on fireproofing, or masonry, unless otherwise indicated. Comply with requirements of SSPC-PA1 “Paint Application Specification No. 1” for shop painting.

## PART 3 - EXECUTION

### PREPARATION

Coordinate and furnish anchorages, setting drawings, diagrams, templates, instructions, and directions for installation of anchorages, including concrete inserts, sleeves, anchor bolts, and miscellaneous items having integral anchors that are to be embedded in concrete or masonry construction. Coordinate delivery of such items to project site.

Center nosings on tread widths with noses flush with riser faces and tread surfaces.

Set sleeves in concrete with tops flush with finish surface elevations; protect sleeves from water and concrete entry.

### INSTALLATION, GENERAL

Fastening to In-Place Construction: Provide anchorage devices and fasteners where necessary for securing miscellaneous metal fabrications to in-place construction; include threaded fasteners for concrete and masonry inserts, toggle bolts, through-bolts, lag bolts, wood screws, and other connectors as required.

Cutting, Fitting, and Placement: Perform cutting, drilling, and fitting required for installation of miscellaneous metal fabrications. Set metal fabrication accurately in location, alignment, and elevation; with edges and surfaces level, plumb, true, and free of rack; and measured from established lines and levels.

Provide temporary bracing or anchors in formwork for items that are to be built into concrete masonry or similar construction.

Fit exposed connections accurately together to form hairline joints. Weld connections that are not to be left as exposed joints, but cannot be shop welded because of shipping size limitations. Do not weld, cut, or abrade the surfaces of exterior units which have been hot-dip galvanized after fabrication, and are intended for bolted or screwed field connections.

Field Welding: Comply with AWS Code for procedures of manual shielded metal-arc welding, appearance and quality of welds made, methods used in correcting welding work, and the following:

- Use materials and methods that minimize distortion and develop strength and corrosion resistance of base metals.

- Obtain fusion without undercut or overlap.

- Remove welding flux immediately.

- At exposed connections, finish exposed welds and surfaces smooth and blended so that no roughness shows after finishing and contour of welded surface matches those adjacent.

#### SETTING LOOSE PLATES

Clean concrete and masonry bearing surfaces of any bond-reducing materials, and roughen to improve bond to surfaces. Clean bottom surface of bearing plates.

Set loose leveling and bearing plates on wedges, or other adjustable devices. After the bearing members have been positioned and plumbed, tighten the anchor bolts. Do not remove wedges or shims, but if protruding, cut off flush with the edge of the bearing plate before packing with grout.

- Pack grout solidly between bearing surfaces and plates to ensure that no voids remain.

#### ADJUSTING AND CLEANING

Touch-Up Painting: Cleaning and touch-up painting of field welds, bolted connections, and abraded areas of the shop paint on miscellaneous metal is specified in Division 9 Section "Painting" of these specifications.

For galvanized surfaces clean welds, bolted connections and abraded areas and apply galvanizing repair paint to comply with ASTM A 780.

END OF SECTION 05500



## SECTION 06100 - ROUGH CARPENTRY

### PART 1 - GENERAL

#### RELATED DOCUMENTS:

Drawings and general provisions of Contract, including General and Supplementary Conditions and Division-1 Specification sections, apply to work of this section.

#### SUMMARY:

Types of work in this section include rough carpentry for:

Wood grounds, nailers and blocking .  
Misc. wood Framing and furring.

**NOTE: Most framing on this project is Light Gage Metal Framing. See plans and Spec Section 05400.**

Sheathing –Exterior Roof Parapet Extension Sheathing and Column and Wall Sheathing as indicated on drawings.

#### DEFINITIONS:

Rough carpentry includes carpentry work not specified as part of other sections and generally not exposed, unless otherwise specified.

#### SUBMITTALS:

Wood Treatment Data: Submit chemical treatment manufacturer's instructions for handling, storing, installation and finishing of treated material.

Preservative Treatment: For each type specified, include certification by treating plant stating type of preservative solution and pressure process used, net amount of preservative retained and conformance with applicable standards.

For water-borne treatment, include statement that moisture content of treated materials was reduced to levels indicated prior to shipment to project site.

#### PRODUCT HANDLING:

Delivery and Storage: Keep materials under cover and dry. Protect against exposure to weather and contact with damp or wet surfaces. Stack lumber as well as plywood and other panels; provide for air circulation within and around stacks and under temporary coverings including polyethylene and similar materials.

#### PROJECT CONDITIONS:

Coordination: Fit carpentry work to other work; scribe and cope as required for accurate fit. Correlate location of furring, nailers, blocking, grounds and similar supports to allow attachment of other work.

### PART 2 - PRODUCTS

#### LUMBER, GENERAL:

Lumber Standards: Manufacture lumber to comply with PS 20 "American Softwood Lumber Standard" and with applicable grading rules of inspection agencies certified by American Lumber Standards Committee's (ALSC) Board of Review.

Inspection Agencies: Inspection agencies and the abbreviations used to reference with lumber grades and species include the following:

SPIB - Southern Pine Inspection Bureau.

WWPA - Western Wood Products Association.

Grade Stamps: Provide lumber with each piece of lumber with grade stamp of inspection agency evidencing compliance with grading rule requirements and identifying grading agency, grade, species, moisture content at time of surfacing, and mill.

For exposed lumber apply grade stamps to ends or back of each piece, or omit grade stamps entirely and issue certificate of grade compliance from inspection agency in lieu of grade stamp.

Nominal sizes are indicated, except as shown by detail dimensions. Provide actual sizes as required by PS 20, for moisture content specified for each use.

Provide dressed lumber, S4S, unless otherwise indicated.

Provide seasoned lumber with 19 percent maximum moisture content at time of dressing and shipment for sizes 2" or less in nominal thickness, unless otherwise indicated.

#### FIRE-RETARDANT-TREATED MATERIALS : IF ANY

General: Where fire-retardant-treated materials are indicated, provide materials that comply with performance requirements in **AWPA C20 (lumber) and AWP C27 (plywood)**. Identify fire-retardant-treated wood with appropriate classification marking of UL, U.S. Testing, Timber Products Inspection, or another testing and inspecting agency acceptable to authorities having jurisdiction.

Use treatment for which chemical manufacturer publishes physical properties of treated wood after exposure to elevated temperatures, when tested by a qualified independent testing agency according to **ASTM D 5664, for lumber and ASTM D 5516, for plywood.**

Use treatment that does not promote corrosion of metal fasteners.

Use Exterior type for exterior locations and where indicated.

Use Interior Type A High Temperature (HT), unless otherwise indicated.

#### WOOD TREATMENT BY PRESSURE PROCESS:

Preservative Treatment: Where lumber or plywood is indicated as "Treated," or is specified herein to be treated, comply with applicable requirements of AWP Standards. AWP U1; Use categories as follows:

Use Category UC2 - for interior construction not in contact with the ground.

Use Category UC3b - for exterior construction not in contact with the ground.

Use Category UC4a - for items in contact with the ground.

Pressure-treat above-ground items with water-borne preservatives to a minimum retention of 0.25 pcf. For interior uses, after treatment, kiln-dry lumber and plywood to a maximum moisture content, respectively, of 19 percent and 15 percent. Treat indicated items and the following:

Wood cants, nailers, curbs, blocking, stripping, and similar members in connection with roofing, flashing, vapor barriers and waterproofing.

Wood sills, sleepers, blocking, furring, stripping and similar concealed members in contact with masonry or concrete.

Wood framing members less than 18" above grade.

Wood floor plates installed over concrete slabs directly in contact with earth.



Preservative Chemicals: Acceptable to authorities having jurisdiction and containing no arsenic or chromium. Note, Coordinate appropriate type of fastener with type of "chemical pressure treatment".

For exposed items indicated to receive a stained or natural finish, use chemical formulations that do not require incising, contain colorants, bleed through, or otherwise adversely affect finishes.

Complete fabrication of treated items prior to treatment, where possible. If cut after treatment, coat cut surfaces with heavy brush coat of same chemical used for treatment and to comply with AWP A M4. Inspect each piece of lumber or plywood after drying and discard damaged or defective pieces.

#### DIMENSION LUMBER

For light framing provide "Stud," "No. 3," or "Standard" grade lumber for stud lumber for stud framing (2 to 4 inches thick, 2 to 4 inches wide, 10 feet and shorter) and "Stud" or "No. 3" grade for other light framing (2 to 4 inches thick, 2 to 6 inches wide), any species.

For structural framing (2 to 4 inches thick, 5 inches and wider), provide the following grade and species:

No. 2 grade.

Southern Pine (SPIB).

Fb (minimum extreme fiber stress in bending); 1200 psi

E (minimum modulus of elasticity); 1,600,000.

#### BOARDS:

Concealed Boards: Where boards will be concealed by other work, provide lumber of 19% maximum moisture content (S-DRY) and of following species and grade:

Southern Pine.

Select Structural

No. 2 grade.

Board Sizes: Provide sizes indicated or, if not indicated (for sheathing, subflooring, trim boards - and similar uses), provide 1" x 8" boards.

Board Sizes: Provide sizes indicated or, if not indicated (for furring, blocking and similar uses), provide 1" x 4" boards.

Exposed Boards: Where boards will be exposed in the finished work, provide the following:

Moisture Content: 19 percent maximum, "S-DRY".

Painted finish typical: No. 1 Boards per SPIB rules, Select Merchantable Boards per WCLIB rules, or No. 2 Common Boards & Better per WWP A rules.

#### MISCELLANEOUS LUMBER:

Provide wood for support or attachment of other work including, cant strips, bucks, nailers, blocking, furring, grounds, stripping and similar members. Provide lumber of sizes indicated, worked into shapes shown, and as follows:

Moisture content: 19 percent maximum for lumber items not specified to receive wood preservative treatment.

Grade: Standard Grade light framing size lumber of any species or board size lumber as required. No. 3 Common or Standard grade boards per WCLIB or WWP A rules or No. 3 boards per SPIB rules.

For blocking not used for attachment of other construction, Utility, Stud, or No. 3 grade lumber of any species may be used provided that it is cut and selected to eliminate defects that will interfere with its attachment and purpose.

For blocking and nailers used for attachment of other construction, select and cut lumber to eliminate knots and other defects that will interfere with attachment of other work.

For furring strips for installing plywood or hardboard paneling, select boards with no knots capable of producing bent-over nails and damage to paneling.

### CONSTRUCTION PANELS:

Construction Panel Standards: Comply with PS 1 "U.S. Product Standard for Construction and Industrial Plywood" for plywood panels and, for products not manufactured under PS 1 provisions, with American Plywood Associates APA PRP-108.

Trademark: Factory-mark each construction panel with APA trademark evidencing compliance with grade requirements.

APA Performance-Rated Panels: Where construction panels will be used for the following types of applications, provide APA Performance-Rated Panels complying with requirements indicated for grade designation, exposure durability classification, edge detail (where applicable) and thickness.

#### APA RATED PLYWOOD SHEATHING.

Exposure Durability Classification: EXTERIOR, EXP-1

Span Rating: As required to suit wall stud or roof truss spacing indicated **but no less than 5/8" thickness or indicated on drawings.**

Applications: Roof edge wood trim and/or Flashing substrate.  
Plywood perimeter roof nailing substrate panels.  
Roof parapet sheathing

Plywood Backing Panels: For mounting electrical or telephone equipment, provide fire-retardant treated plywood panels with grade designation, APA C-D PLUGGED INT with exterior glue, in thickness indicated, or, if not otherwise indicated, not less than 15/32".

### MISCELLANEOUS MATERIALS:

Fasteners and Anchorages: Provide size, type, material and finish as indicated and as recommended by applicable standards, complying with applicable Federal Specifications for nails, staples, screws, bolts, nuts, washers and anchoring devices. Provide metal hangers and framing anchors of the size and type recommended by the manufacturer for each use including recommended nails.

Where rough carpentry work is exposed to weather, in ground contact, or in area of high relative humidity, provide fasteners and anchorages with a hot-dip zinc coating (ASTM A 153).

Building Paper: ASTM D 226, Type I; asphalt saturated felt, non-perforated, 15-lb. type.

### FASTENERS

General: Provide fasteners of size and type indicated that comply with requirements specified in this article for material and manufacture.

Where rough carpentry is exposed to weather, in ground contact, or in area of high relative humidity, provide fasteners with a hot-dip zinc coating per ASTM A 153 or of AISI Type 304 stainless steel.

Coordinate appropriate type of fastener with type (if any) of "chemical preservative-pressure treatment".

If ACQ (Alkaline Copper Quat) or CA-B (Copper Azole) treated wood is used, fasteners must be stainless steel or have electro deposited organic coatings (E-Coat).

Nails, Wire, brads, staples: FS FF-N-105.

Power Driven Fasteners: National Evaluation Report NER-272.

Wood Screws: ANSI B18.6.1.

Lag Bolts: ANSI B18.2.1.

Bolts: Steel bolts complying with ASTM A 307, Grade A; with ASTM A 563 hex nuts and where indicated, flat washers.

### PART 3 - EXECUTION

#### INSTALLATION, GENERAL:

Discard units of material with defects which might impair quality of work, and units which are too small to use in fabricating work with minimum joints or optimum joint arrangement.

Set carpentry work to required levels and lines, with members plumb and true to line and cut and fitted.

Fit rough carpentry to other construction; scribe and cope as required for accurate fit. Correlate location of furring, nailers, blocking, grounds, and similar supports to allow attachment of other construction.

Securely attach carpentry work to substrate by anchoring and fastening as shown and as required by recognized standards. Countersink nail heads on exposed carpentry work and fill holes.

Countersink nail heads on exposed carpentry work and fill holes.

Use common wire nails, except as otherwise indicated. Use finishing nails for finish work. Select fasteners of size that will not penetrate members where opposite side will be exposed to view or will receive finish materials. Make tight connections between members. Install fasteners without splitting of wood; predrill as required.

#### WOOD GROUNDS, NAILERS, BLOCKING AND SLEEPERS:

Provide wherever shown and where required for screeding or attachment of other work. Form to shapes as shown and cut as required for true line and level of work to be attached. Coordinate location with other work involved.

Attach to substrates as required to support applied loading. Countersink bolts and nuts flush with surfaces, unless otherwise indicated. Build into masonry during installation of masonry work. Where possible, anchor to formwork before concrete placement.

#### WOOD FURRING:

Install plumb and level with closure strips at edges and openings. Shim with wood as required for tolerance of finished work.

Firestop furred spaces on walls at each floor level and a ceiling line of top story, with wood blocking or noncombustible materials, accurately fitted to close furred spaces.

Furring to receive gypsum Drywall: Install 1-inch by 2 -inch furring at 16 inches o.c., vertically. (See drawings, furring may be indicated to be metal furring.)

#### WOOD FRAMING, GENERAL:

Provide framing members of sizes and on spacings shown, and frame openings as shown, or if not shown, comply with recommendations of "Manual for House Framing" of National Forest Products Association N.F.P.A). Do not splice structural members between supports.

Anchor and nail as shown, and to comply with "Recommended Nailing Schedule" of "Manual for House Framing" and "National Design Specifications for Wood Construction" published by of N.F.P.A.

### **STUD FRAMING: IF ANY**

**General:** Provide stud framing of size and spacing indicated or, if not otherwise indicated, of the following sizes and spacings. Arrange studs so that wide face of stud is perpendicular to direction of wall or partition and narrow face is parallel. Provide single bottom plate and double top plates using 2" thick members with widths equaling that of studs; except single top plate may be used for non-load-bearing partitions. Nail or anchor plates to supporting construction.

For exterior walls provide 2" x 6" wood studs spaced 16" o.c. (**Unless Noted Otherwise on Drawings**)

For interior load bearing walls provide 2" x 6" wood studs spaced 16" o.c. (**Unless noted Otherwise on drawings**)

For interior partitions and walls provide 2" x 4" wood studs spaced 16" o.c. (**Unless Noted Otherwise on Drawings**)

**NOTE: SPACE STUDS TO ALIGN DIRECTLY UNDER FRAMING (i.e. joists, trusses, beams, rafters, etc.) CARRIED BY STUDS.**

Construct corners and intersections with not less than 3 studs. Provide miscellaneous blocking and framing as shown and as required for support of facing materials, fixtures, specialty items and trim.

Provide continuous horizontal blocking row at mid-height of single-story partitions over 8' high and at midpoint of multi-story partitions, using 2" thick members of same width as wall or partitions.

Frame openings with multiple studs and headers. Provide nailed header members of thickness equal to width of studs. Set headers on edge and support on jamb studs.

For non-bearing partitions, provide double-jamb studs and headers not less than 6" deep for openings 3' and less in width, and not less than 8" deep for wider openings.

For load-bearing partitions, provide double-jamb studs for openings 6' and less in width, and triple-jamb studs for wider openings. Provide headers of depth shown, or if not shown, provide as recommended by N.F.P.A. "Manual for House Framing".

Provide diagonal bracing in stud framing of exterior walls, except as otherwise indicated. Brace both walls at each external corner, full story height, at a 45 degree angle, using either a let-in 1 x 4 blocking.

### **FLOOR JOIST FRAMING: IF ANY**

**General:** Install floor joists with crown edge up and support ends of each member with not less than 1-1/2 inches of bearing on wood or metal, or 3 inches on masonry. Attach floor joists as follows:

Where supported on wood members, by toe nailing or by using metal framing anchors.

Where framed into wood supporting members, by using wood ledgers as shown or, if not shown, by using metal joist hangers.

Fire Cuts: At joists built into masonry, bevel cut ends 3 inches and do not embed more than 4 inches.

Frame openings with headers and trimmers supported by metal joist hangers; double headers and trimmers where span of header exceeds 48 inches.

Do not notch in middle third of joists; limit notches to 1/6 depth of joist, 1/3 at ends. Do not bore holes larger than 1/3 depth of joist; do not locate closer than 2 inches from top or bottom.

Provide solid blocking of 2-inch nominal thickness by depth of joist at ends of joists unless nailed to header or band.

Lap members framing from opposite sides of beams, girders, or partitions not less than 4 inches or securely tie opposing members together. Provide solid blocking of 2-inch nominal thickness by depth of joist over supports.

Anchor members paralleling masonry with 1/4-by-1-1/4-inch (6-by-32-mm) metal strap anchors spaced not more than 96 inches (2438 mm) o.c. extending over and fastening to 3 joists. Embed anchors at least 4 inches (100 mm) into masonry with ends bent at right angles 4 inches (100 mm) into grouted masonry.

Under jamb studs at openings, provide solid blocking between joist.

Under non-load-bearing partitions, provide double joists separated by solid blocking equal to depth of studs above.

Provide bridging of type indicated below, at intervals of 96 inches o.c., between joists.

Diagonal wood bridging formed from bevel cut 1-by-3-inch nominal- size lumber, double-crossed and nailed both ends to joists.

Steel bridging installed to comply with bridging manufacturer's written instructions.

#### **RAFTER AND CEILING JOIST FRAMING: IF ANY**

Ceiling Joists: Provide member size and spacing shown, and as previously specified for floor joist framing. Face nail to ends of parallel rafters.

Where principal ceiling joists are at right angles to rafters, frame as indicated with additional short joists from wall plate to first joist; nail to ends of rafters and to top plate and nail to long joists or anchor with framing anchors or metal straps. Provide 1 x 8 or 2 x 4 stringers spaced 4' o.c. crosswise over principal ceiling joists.

Rafters: Provide member size and spacing shown. Notch to fit exterior wall plates and toe nail or use special metal framing anchors. Double rafters to form headers and trimmers at openings in roof framing (if any), and support with metal hangers. Where rafters abut at ridge, place directly opposite each other and nail to ridge member or use metal ridge hangers.

At valleys, provide valley rafter of size shown, or if not shown, provide rafter twice as thick as regular rafters and 2" deeper. Bevel ends of jack rafters for full bearing against valley rafter.

At hips, provide hip rafters of size shown, or if not shown, provide of same thickness as regular rafters and 2" deeper. Bevel ends of jack rafters for full bearing against hip rafters.

Provide collar beams (ties) as shown, or if not shown, provide 1" x 6" boards between every third pair of rafters. Locate below ridge member, one-third of distance to ceiling joists. Cut ends to fit slope and nail to rafters.

Provide special framing as shown for eaves, overhangs, dormers and similar conditions, if any.

#### INSTALLATION OF CONSTRUCTION PANELS

General: Comply with applicable recommendations contained in Form No. E30, "APA Design/Construction Guide - Residential & Commercial," for types of construction panels and applications indicated.

Roof Deck Sheathing (exterior grade plywood) spaced a minimum of 1/8" at all edges and ends. Edge clips used to maintain edge spacing as necessary.

Protect installed plywood from damage until system is completed.

Fastening Methods: Fasten panels as indicated below:

Subflooring: SCREW to framing.

Sheathing: SCREW to cold-formed metal framing.

Underlayment: SCREW to framing.

END OF SECTION 06100

## SECTION 07275 - WEATHER BARRIERS

### PART 1 - GENERAL

#### RELATED DOCUMENTS

Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

#### SUMMARY

Section Includes:

Building wrap. "Air Infiltration Barrier" Temporary Weather cladding.  
Use a cladding underneath ACM panels.

Related Requirements:

See Section 07200 for insulation specifications.  
See Section 07600 for flexible flashing and sheet metal.

#### ACTION SUBMITTALS

Product Data: For each type of product.

For building wrap, include data on air and water-vapor permeance based on testing according to referenced standards.

### PART 2 - PRODUCTS

#### WATER-RESISTIVE BARRIER

Building Wrap: ASTM E 1677, Type I air barrier; with flame-spread and smoke-developed indexes of less than 10 and 10, respectively, when tested according to ASTM E 84 (Class A); ASTM D 1117 Tear resistance 10 lbs.; ASTM D 882 Tensile Strength 35 lbs./in.; UV stabilized; and acceptable to authorities having jurisdiction.

Products: Subject to compliance with requirements, **provide the following:**

**DuPont - Tyvek CommercialWrap**

Or equals by Others

Water-Vapor Permeance: Not less than 28 perms per ASTM E 96/E 96M, Desiccant Method (Procedure B).

Air Permeance: Not more than 0.001 cfm/sq. ft. at 75 Pa when tested according to ASTM E 2178.

Allowable UV Exposure Time: Not less than three months.

#### MISCELLANEOUS MATERIALS

Flashing system (other than that covered under Section 07600), seam tape, fasteners, sealants, adhesives, and primers shall be provided by the selected building wrap manufacturer to be installed as a single source system.

#### PART 3 - EXECUTION

##### WATER-RESISTIVE BARRIER INSTALLATION

Cover exposed exterior surface of sheathing with water-resistive barrier securely fastened to framing immediately after sheathing is installed.

Cover sheathing with water-resistive barrier as follows:

Cut back barrier 1/2 inch (13 mm) on each side of the break in supporting members at expansion-or control-joint locations.

Apply barrier to cover vertical flashing with a minimum 4-inch (100-mm) overlap unless otherwise indicated.

Building Wrap: Comply with manufacturer's written instructions.

Seal seams, edges, fasteners, and penetrations with tape.

Extend into jambs of openings and seal corners with tape.

END OF SECTION 07275



## SECTION 07412 – ALUMINUM COMPOSITE METAL PANELS

### PART 1 – GENERAL

#### SUMMARY:

Section Includes: Composite Metal panels.

Applications of composite metal panels include:

Aluminum faced composite panels with mounting system with “route and return” panels. Panel mounting system including anchorages, shims, furring, fasteners, gaskets and sealants, related flashing adapters, and masking (as required) for a complete watertight installation.

Parapet coping, column covers, soffits, sills, border, and filler items indicated as integral components of the panel system or as designed.

Related Sections: Section(s) related to this section include:

Cold-Formed Metal Framing: Division 05 Cold-Formed Metal Framing Sections.

Sheet Metal Flashing and Trim: Division 07 Flashing and Sheet Metal Sections.

Joint Sealers: Division 07 Joint Sealers Sections.

#### REFERENCES:

General: Standards listed by reference, including revisions by issuing authority, form a part of this specification section to the extent indicated. Standards listed are identified by issuing authority, authority abbreviation, designation number, title or other designation established by issuing authority. Standards subsequently referenced herein are referred to by issuing authority abbreviation and standard designation.

#### ASTM International (ASTM):

ASTM D1781 Standard Test Method for Climbing Drum Peel for Adhesives.

ASTM E84 Standard Test Method for Surface Burning Characteristics of Building Materials.

ASTM E108 (Modified) Standard Test Methods for Fire Tests of Roof Coverings.

ASTM E283 Standard Test Method for Determining the Rate of Air Leakage Through Exterior Windows, Curtain Walls and Doors Under Specified Pressure Differences Across the Specimen.

ASTM E330 Standard Test Method for Structural Performance of Exterior Windows, Curtain Walls and Doors By Uniform Static Air Pressure Difference.

ASTM E331 Standard Test Method for Water Penetration of Exterior Windows, Curtain Walls and Doors By Uniform Static Air Pressure Difference.

#### American Architectural Manufacturers Association (AAMA):

AAMA 2605 Voluntary Specification, Performance Requirements and Test Procedures for Superior Performing Organic Coatings on Aluminum Extrusions and Panels.

#### Underwriters Laboratories Inc. (UL):

UL 94 Standard for Flammability of Plastic Materials for Parts in Devices and Appliances.

#### International Organization for Standardization (ISO):

ISO 9001-2000 Quality Management Systems - Requirements.

#### SYSTEM DESCRIPTION:

Performance Requirements: Provide composite metal panels which have been manufactured, fabricated and installed to withstand loads from deflection and thermal movement and to maintain performance criteria stated by manufacturer without defects, damage or failure.

## SUBMITTALS:

General: Submit listed submittals in accordance with Conditions of the Contract and Division 01 Submittal Procedures Section.

Product Data: Submit product data, including manufacturer's SPEC-DATA product sheet, for specified products.

Shop Drawings: Submit shop drawings showing layout, profiles and product components, including anchorage, accessories, finish colors and textures.

Include details showing thickness and dimensions of the various system parts, fastening and anchoring methods, locations of joints and gaskets and location and configuration of joints necessary to accommodate thermal movement.

Samples: Submit selection and verification samples for finishes, colors and textures.

Selected Samples: Manufacturer's color charts or chips illustrating full range of colors, finishes and patterns available for composite metal panels with factory-applied finishes.

### Verification Samples:

Structural: 12 inch × 12 inch (305 × 305 mm) sample composite panels in thickness specified, from an available stock color, including clips, anchors, supports, fasteners, closures and other panel accessories, for assembly approval. Include panel assembly samples not less than 24 inches × 24 inches (610 × 610 mm), showing 4-way joint.

Include separate sets of draw down samples on aluminum substrate, not less than 3 inches × 5 inches (76 × 127 mm), of each color and finish selected, for color approval. Larger samples of standard colors are available with production applied coatings.

Quality Assurance Submittals: Submit the following:

Test Reports: Certified test reports showing compliance with specified performance characteristics and physical properties.

Certificates: Product certificates signed by manufacturer certifying materials comply with specified performance characteristics and physical requirements.

Manufacturer's Instructions: Manufacturer's installation instructions.

Manufacturer's Field Reports: Manufacturer's field reports.

Closeout Submittals: Submit the following:

Warranty: Warranty documents specified herein.

## QUALITY ASSURANCE:

### Qualifications:

Installer Qualifications: Installer experienced in performing work of this section who has specialized in the installation of work similar to that required for this project.

Manufacturer Qualifications: Company with a minimum of 5 years of continuous experience manufacturing panel material of the type specified:

Able to provide specified warranty on finish.

Able to provide a list of 5 other projects of similar size, including approximate date of installation and the name of the Architect for each.

Able to produce the composite material without outsourcing of coating or lamination process.

Able to provide certificate of registration of ISO 9001-2000.

Fabricator Qualifications: Company with at least 3 years of experience on similar sized metal panel projects and qualified by the panel material manufacturer. Capable of providing field service representation during construction.

Preinstallation Meetings: Conduct preinstallation meeting to verify project requirements, substrate conditions, installation instructions and warranty requirements. Comply with Division 01 Project Management and Coordination, Project Meetings Section.

Field Quality Control: Comply with panel system manufacturer's recommendations and guidelines for field forming of panels.

#### DELIVERY, STORAGE & HANDLING:

General: Comply with Division 01 Product Requirements Sections.

Ordering: Comply with manufacturer's ordering instructions and lead time requirements to avoid construction delays.

Delivery: Deliver materials in manufacturer's original, unopened, undamaged containers with identification labels intact.

Protection: Protect finish of panels by applying heavy duty removable plastic film during production.

Delivery: Package composite wall panels for protection against transportation damage. Provide markings to identify components consistently with drawings.

Handling: Exercise care in unloading, storing and installing panels to prevent bending, warping, twisting and surface damage.

Storage and Protection: Store materials protected from exposure to harmful weather conditions and at temperature conditions recommended by manufacturer.

Storage: Store panels in well-ventilated space out of direct sunlight.

Protect panels from moisture and condensation with tarpaulins or other suitable weathertight covering installed to provide ventilation.

Slope panels to ensure positive drainage of any accumulated water.

Do not store panels in any enclosed space where ambient temperature can exceed 120 degrees F (49 degrees C).

Damage: Avoid contact with any other materials that might cause staining, denting or other surface damage.

#### PROJECT CONDITIONS:

Field Measurements: Verify actual measurements/openings by field measurements before fabrication; show recorded measurements on shop drawings. Coordinate field measurements, fabrication schedule with construction progress to avoid construction delays.

#### WARRANTY:

Project Warranty: Refer to Conditions of the Contract for project warranty provisions.

Manufacturer's Warranty: Submit, for Owner's acceptance, manufacturer's standard warranty document executed by authorized company official. Manufacturer's warranty is in addition to and not a limitation of, other rights Owner may have under the Contract Documents.

#### Warranty Period:

Panel Integrity: 10 years commencing on Date of Substantial Completion.

Finish: 10 years commencing on Date of Substantial Completion.

## PART 2 – PRODUCTS

### ALUMINUM COMPOSITE METAL PANELS:

Manufacturers: Provide ACM panels by one of the following manufacturers:

ALPOLIC/Mitsubishi Plastics Composites America, Inc.  
Alucobond/3A Composites  
Reynobond/Alcoa Architectural Products  
Pattison

### PRODUCT SUBSTITUTIONS:

Substitutions: No substitutions permitted.

### ALUMINUM COMPOSITE METAL PANEL MATERIALS:

Core: Thermoplastic material that meets performance characteristics specified when fabricated into composite assembly.

Face Sheets: Aluminum alloy 3105 H14, 0.020 inch (0.51 mm) thick and as follows:

Coil coated with a fluoropolymer paint finish that meets or exceeds values expressed in AAMA 2605 where relevant to coil coatings.

Bond Integrity: Tested for resistance to delamination as follows:

Peel Strength (ASTM D1781): 22.5 in-lb/in (100 N-m/m) minimum.

No degradation in bond performance after 8 hours of submersion in boiling water and after 21 days of immersion in water at 70 degrees F (21 degrees C).

Fire Performance:

Flamespread (ASTM E84): 25 maximum.

Smoke Developed (ASTM E84): 450 maximum.

Surface Flammability (Modified ASTM E108): Pass.

V-O Rating (4 mm): Comply with UL 94.

Production Tolerances:

Width: +/- 2 mm.

Length: +/- 4 mm.

Thickness (4 mm Panel): +/- 0.008 inch (0.2 mm).

Thickness (6 mm Panel): +/- 0.012 inch (0.3 mm).

Bow: Maximum 0.5% length or width.

Squareness: Maximum 0.2 inch (5 mm).

Edges of sheets shall be square and trimmed.

Panel Thickness: 4 mm.

Color (s): Provide two color panels;

Metallic silver/aluminum (Primary panels)

White or White Pearl (Accent panels)

### ACCESSORIES:

General: Provide fabricator's standard accessories, including fasteners, clips, anchorage devices and attachments.

### RELATED MATERIALS:

General: Refer to other related sections for related materials, including cold-formed metal framing, flashing and trim, joint sealers, aluminum windows, glass and glazing and curtain walls.

FABRICATION:

General: Shop fabricate to sizes and joint configurations indicated on the drawings.

Where final dimensions cannot be established by field measurements, provide allowance for field adjustment as recommended by the fabricator.

Form panel lines, breaks and angles to be sharp and true, with surfaces that are free from warp or buckle.

Fabricate with sharply cut edges, with no displacement of aluminum sheet or protrusion of core.

FINISHES:

Factory Finish: A fluoropolymer paint finish that meets or exceeds values expressed in AAMA 2605 where relevant to coil coatings.

SOURCE QUALITY: Obtain composite panel products from a single manufacturer.

PART 3 – EXECUTION

MANUFACTURER’S INSTRUCTIONS:

Compliance: Comply with manufacturer’s product data, including product technical bulletins, product catalog installation instructions and product carton instructions.

EXAMINATION:

Site Verification of Conditions: Verify that substrate conditions are acceptable for product installation.

PREPARATION:

Adjacent Surfaces Protection: Protect adjacent work areas and finish surfaces from damage during product installation.

INSTALLATION:

General:

Install panels plumb, level and true, in compliance with fabricator’s recommendations.

Anchor panels securely in place, in accordance with fabricator’s approved shop drawings.

Comply with fabricator’s instructions for installation of concealed fasteners and with provisions of Section 07 90 00 for installation of joint sealers.

Installation Tolerances: Maximum deviation from horizontal and vertical alignment of installed panels: 0.25 inch (6.4 mm) in 20 feet (6.1 m), non-cumulative.

FIELD QUALITY REQUIREMENTS:

Fabricator’s Field Services: Provide fabricator’s field service consisting of product use recommendations and as many site visits as necessary to ensure product installation in accordance with fabricator’s instructions.

ADJUSTING:

Repair panels with minor damage such that repairs are not discernible at a distance of 10 feet (3.1 m).

Remove and replace panels damaged beyond repair.

Remove protective film immediately after installation of joint sealers and immediately prior to completion of composite metal panel work.

Remove from project site damaged panels, protective film and other debris attributable to work of this section.

CLEANING:

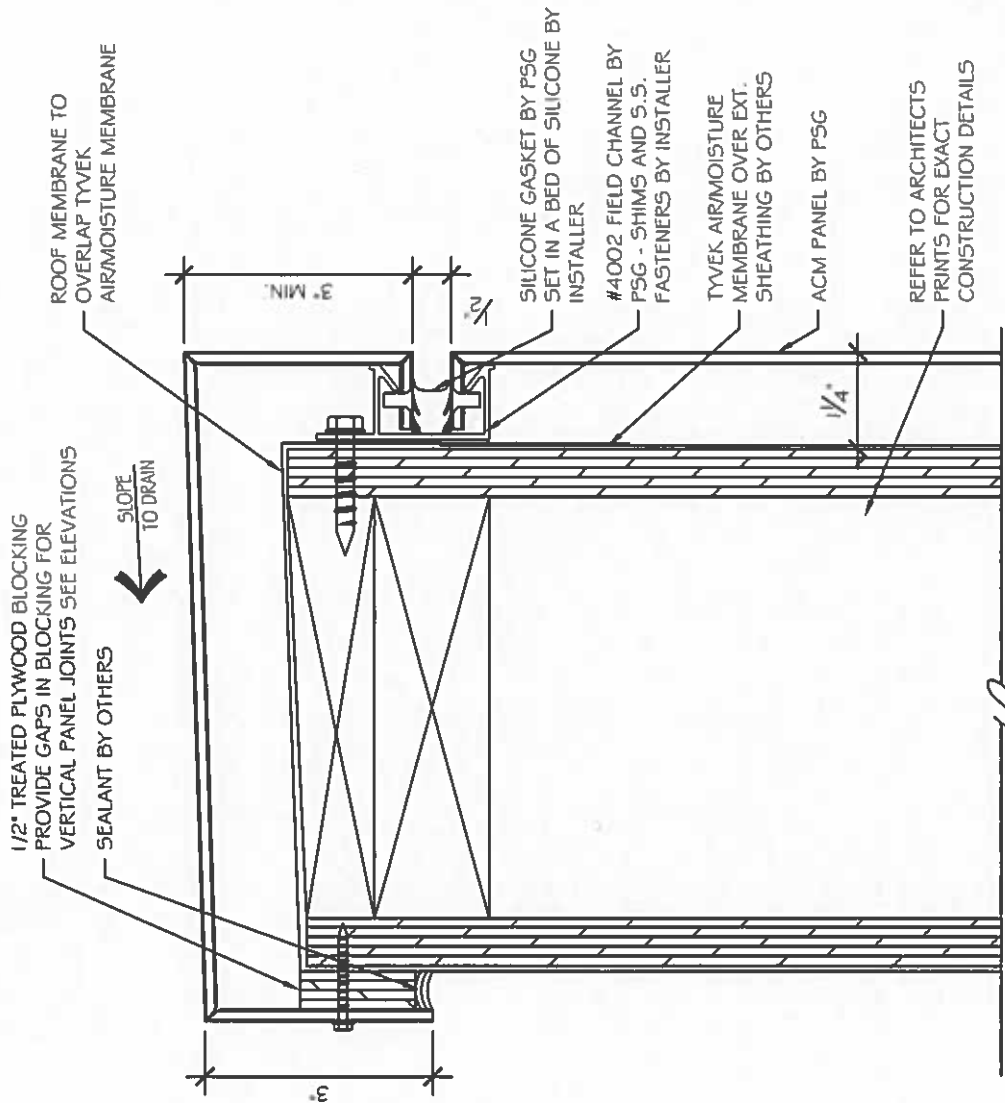
Cleaning: Remove temporary coverings and protection of adjacent work areas. Repair or replace damaged installed products. Clean installed products in accordance with manufacturer's instructions prior to Owner's acceptance. Remove construction debris from project site and legally dispose of debris.

PROTECTION:

Protection: Protect installed product's finish surfaces from damage during construction.

Institute protective measures as required to ensure that installed panels will not be damaged by work of other trades.

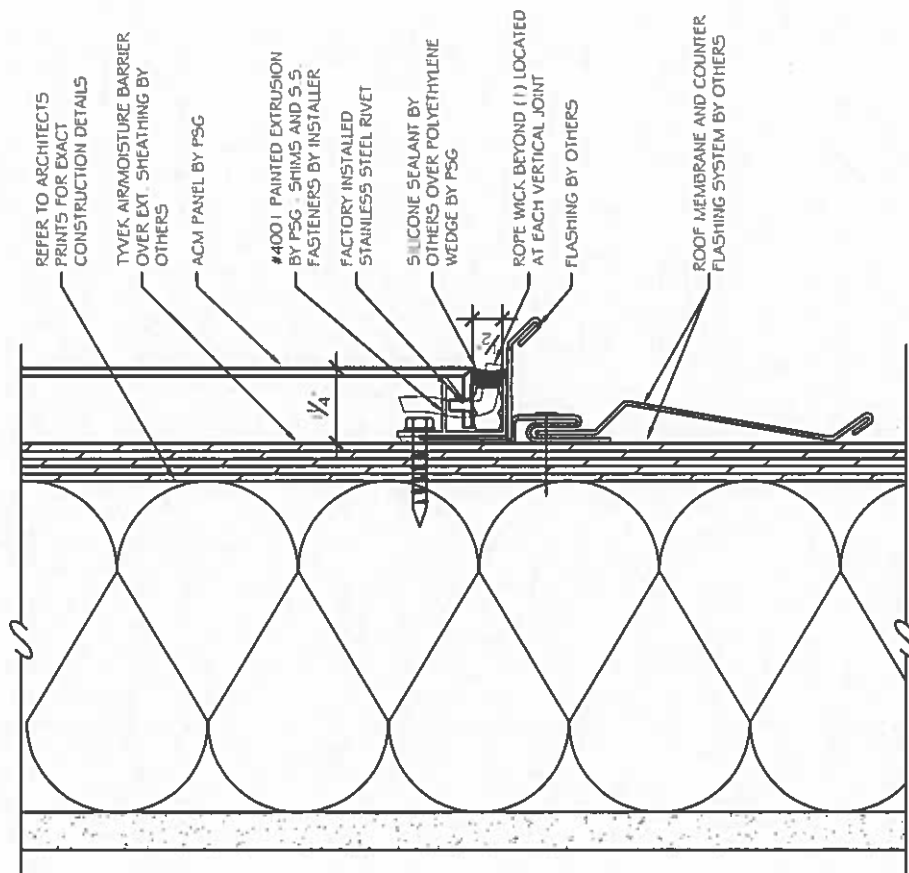
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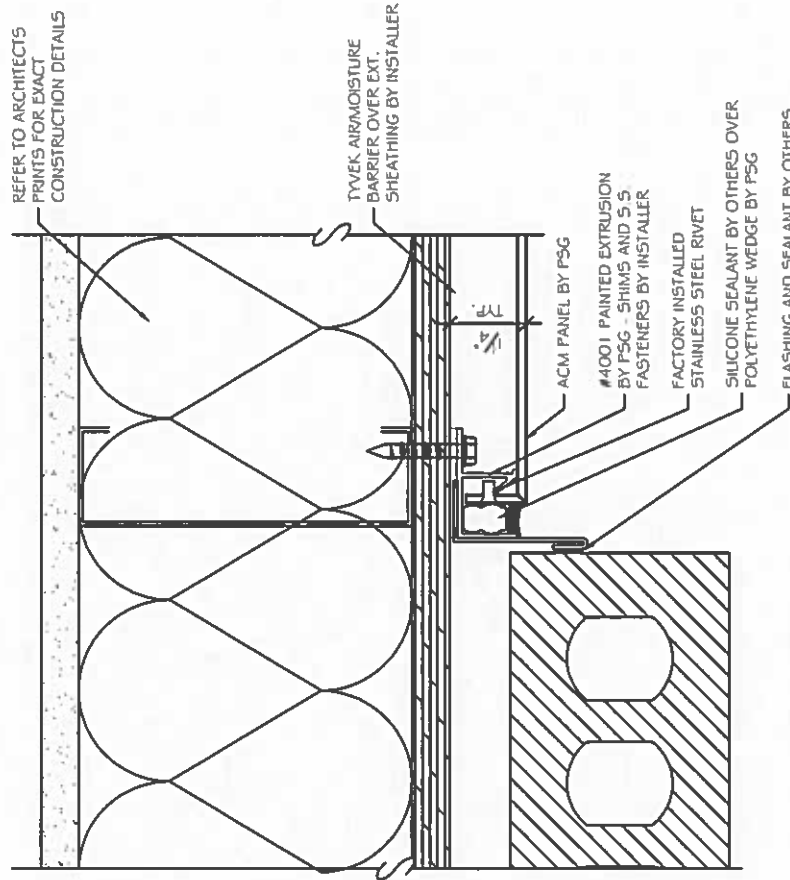


PANEL TERMINATION ABOVE ROOF DETAIL

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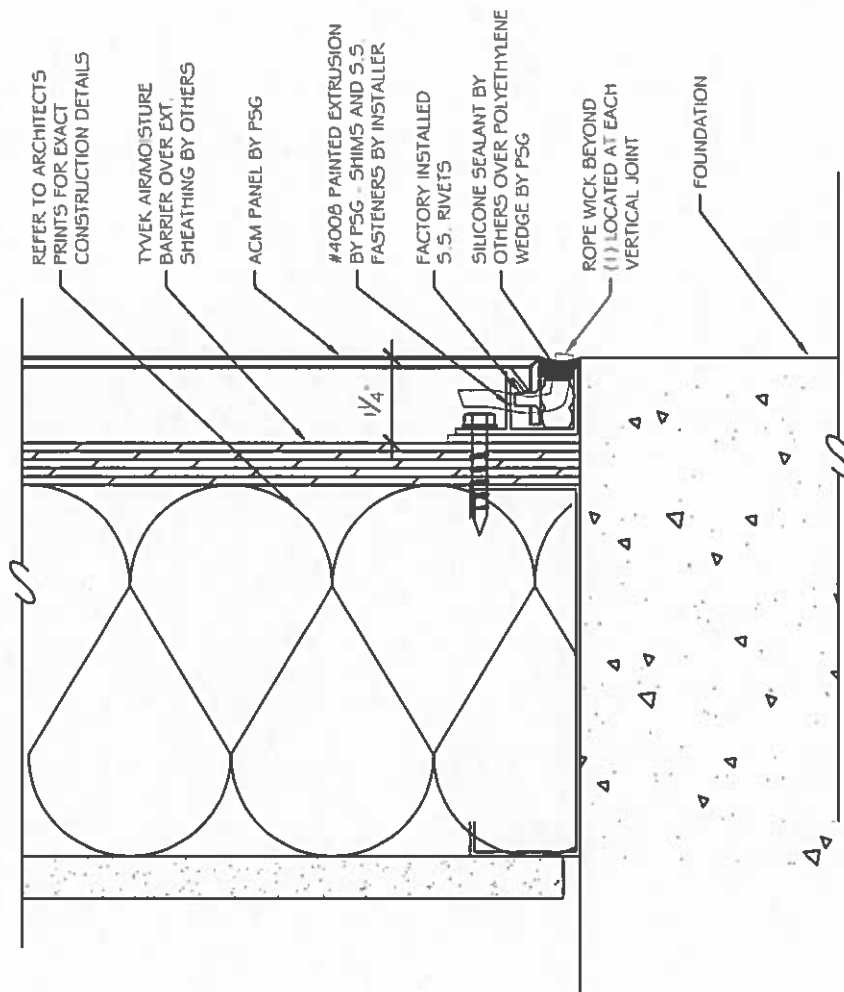




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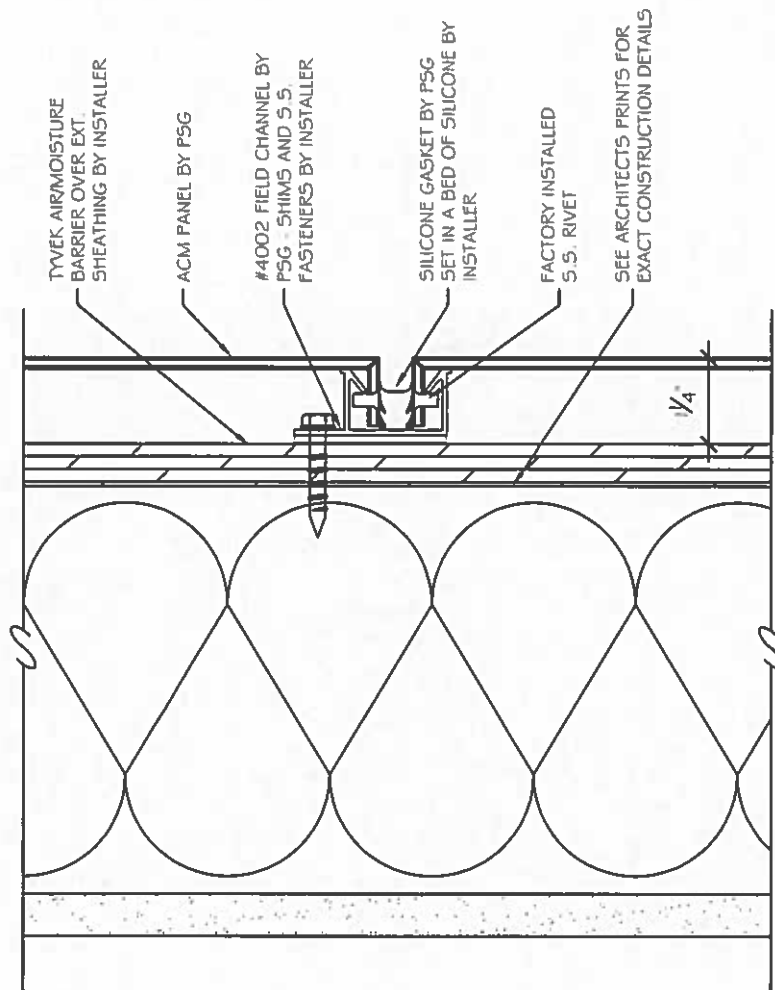
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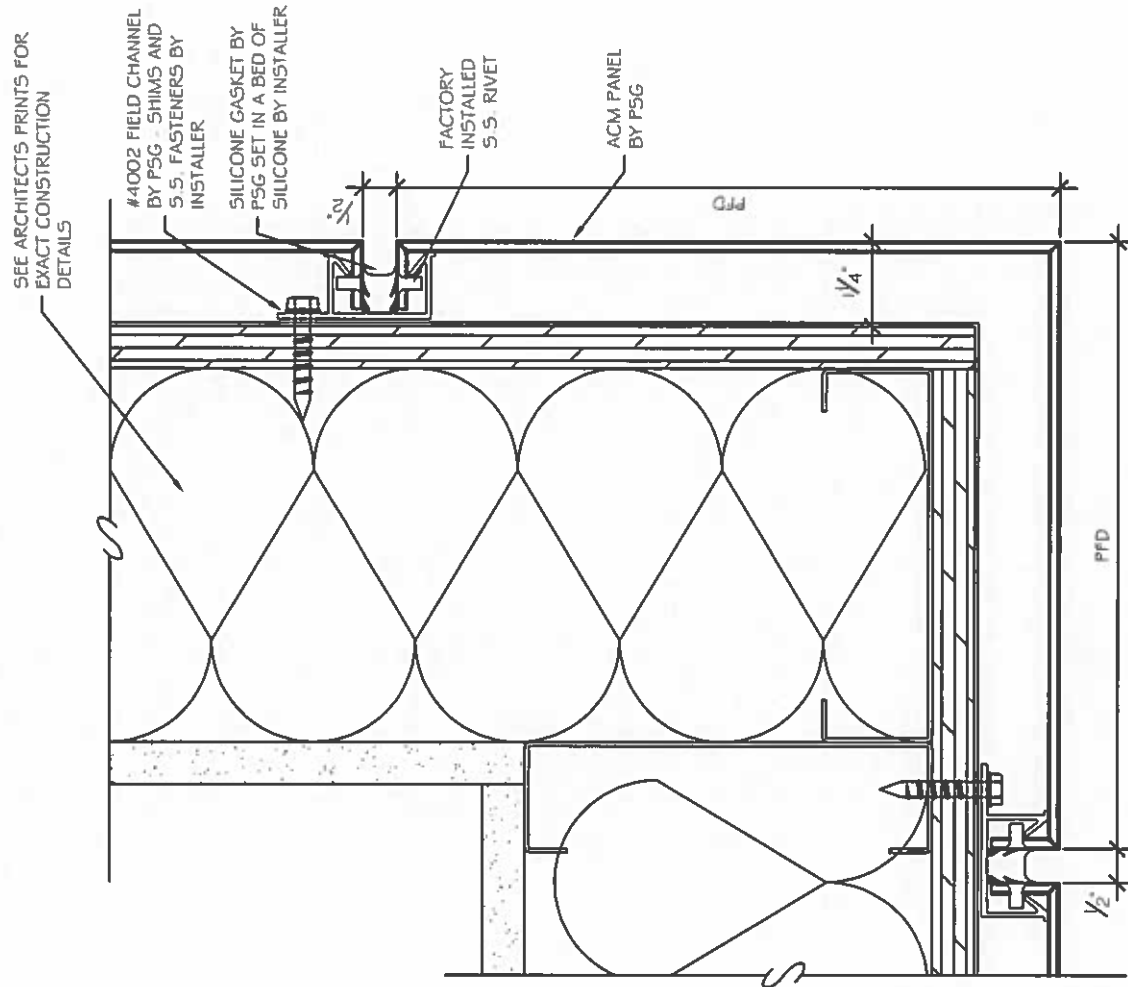
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TYP. PANEL JOINT DETAIL

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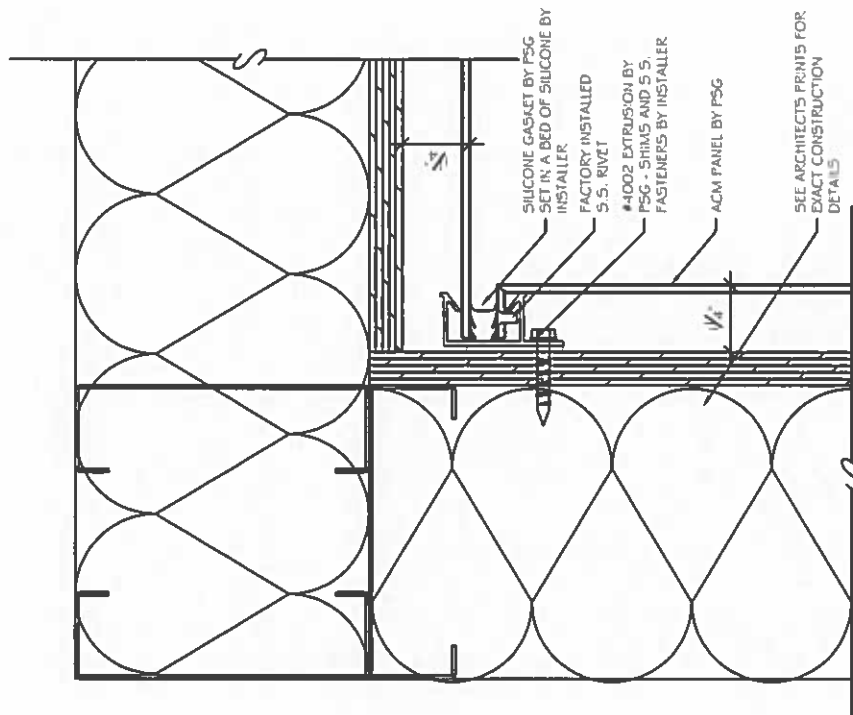
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TYP INSIDE CORNER DETAIL

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## SECTION 07530 – THERMOPLASTIC POLYOLEFIN SINGLE PLY ROOFING (TPO)

### PART 1 - GENERAL

#### RELATED DOCUMENTS

Drawings, General Conditions and Supplementary General Conditions and other Division-1 Specification Sections, apply to this Section.

#### SUMMARY

This Section includes fully adhered thermoplastic polyolefin single-ply roofing PARAPET WALL FLASHING and transitional flashing between the existing canopy roofing and the new extended height canopy parapet wall. Flashing tie-in to the existing roofing material for a waterproof installation is required utilizing subsurface flashing between differing membrane types and a continuous counterflashed termination. The roofwork is required to be installed in accordance with drawings and specifications approved by the roofing membrane manufacturer.

Types of roofing systems specified in this section utilizing single ply roofing membranes include the following:

Fully Adhered 60 mil Parapet wall flashing System  
on a plywood sheathed metal stud framed parapet.

#### REFERENCES

ASTM D 412 Standard Test Methods for Vulcanized Rubber and Thermoplastic Elastomers-Tension; 1998a (2002)

ASTM D 471 Standard Test Method for Rubber Property – Effect of Liquids

ASTM D 573 Standard Test Method for Rubber Property –Deterioration in an Air Oven

ASTM D 751 Standard Test Method for Coated Fabrics 2000

ASTM D 816 Standard Test Method for Rubber Cements 1982-2001

ASTM D 1149 Standard Test Method for Rubber Deterioration – Surface Ozone Cracking in a Chamber 1999

ASTM D 1204 Standard Test Method for Linear Dimensional Changes of Nonrigid Thermoplastic Sheeting or Film at Elevated Temperatures; 2002

ASTM D 2137 Standard Test Method for Rubber Property – Brittleness Point of Flexible Polymers and Coated Fabrics; 1994 – 2000

FM P7825 Approval Guide Factory Mutual Research Corporation, current edition

FED STD 101 Test Procedures for Packaging Materials, Federal Specifications and Standards, Revision C 1980 – Change Noticed 3 1988

UL (FRD) – Fire Resistant Directory, Underwriters Laboratories Inc, current edition

#### SUBMITTALS

General: Submit the following in accordance with Conditions of Contract and Division 1 Specification Sections.

Product data, installation instructions, and general recommendations from manufacturer of the roofing system. Include data substantiating that materials comply with requirements.

Product data sheets for each material required including:

- Membrane
- Flashings
- Counterflashings
- Adhesive Membrane fasteners
- Insulation
- Insulation adhesive
- Metal Accessories
- Caulks and sealants
- Unreinforced flashing material
- Performed corners and boots
- Roof Overflow Scuppers
- And other required materials.

Manufacturer's standard details for each applicable project condition

Manufacturer's installation instructions.

Samples of finished roofing sheets, including T-shaped side/end-lap seam. Also include the following:

Samples of required insulation boards, walkway pad material, membrane adhesive and insulation fasteners.

Shop drawings showing roof configuration, sheet layout, seam locations, colors (as applicable), details at perimeter, and special conditions.

- Method of membrane seaming
- Indicate layout of mechanical fasteners.
- Indicate layout (if any) of tapered insulation materials.
- Indicate method/pattern of Insulation attachment.
- Base flashings and terminations.

Pre-roofing Conference records.

Test data for pullout resistance of fastening systems.

Sample warranty of standard roofing system warranty stating obligations, remedies, limitations, and exclusions of warranty.

Inspection Report: Copy of roofing system manufacturer's inspection report of completed roofing inspection.



## QUALITY ASSURANCE

**Installer:** Engage an experienced Installer to apply single ply membrane roofing who has specialized in application of roofing systems similar to those required for this project. Installer must be acceptable to or licensed by manufacturer of primary roofing material.

Work associated with single ply membrane roofing, including (but not limited to) insulation, flashing and counterflashing, expansion joints, and joint sealers, is to be performed by Installer of this work.

**Pre-Roofing Conference:** Prior to installation of roofing and associated work, meet at project site, or other mutually agreed location, with Installer, roofing sheet manufacturer, installers of related work, and other entities concerned with roofing performance, including (where applicable) Owner's insurer, test agencies, governing authorities, Architect, and Owner. Record discussions and agreements and furnish copy to each participant. Provide at least 72 hours advance notice to participants prior to convening pre-roofing conference.

**UL Listing:** Provide labeled materials that have been tested and listed by UL in "Building Materials Directory" or by other nationally recognized testing laboratory for application indicated, with "Class A" rated materials/system for roof slopes shown.

## PROJECT CONDITIONS

**Weather:** Proceed with roofing work when existing and forecasted weather conditions permit work to be performed in accordance with manufacturers' recommendations and warranty requirements.

**Substrate Conditions:** Do not begin roofing installation until substrates have been inspected and are determined to be in satisfactory condition.

## WARRANTY

**Special Project Warranty:** Submit two executed copies of 2-year "Roofing Warranty" covering work of this section including roofing membrane, composition flashing, roof insulation, and roof accessories, signed and countersigned by Installer (Roofer) and Contractor.

## PART 2 - PRODUCTS

### MANUFACTURER

**Acceptable Manufacturer:** Subject to compliance with requirements, manufacturers offering products that may be incorporated in the work include, but are not limited to, the following: ( Note manufacturer's are included that make their own membrane product)

Ultra ply by Firestone Building Products Co. (Basis of Design)  
EverGuard TPO 60 by GAF Materials Corp.  
VersiWeld (white, 60 mil reinf TPO) by Versico Roofing Systems  
Equals by - Carlisle Syntec Systems. Or Johns Manfield TPO

### ROOFING SYSTEM

**Provide:** One of the above roofing products or pre-approved equal.

Classified by Underwriters Laboratories as a Class A roofing material for use in construction of Class A roofing assemblies.

Meet test requirements for FM Class 1A fire and **I-90** wind resistance.

Membrane: Scrim-reinforced, **thermoplastic polyolefin** (TPO) based sheet, bearing UL label on the packaging.

Thickness: **60 mi reinforced.**, nominal when measure in accordance with ASTM D 751

Sheet Length: as required to avoid end seams.

Color: **White.**

Breaking Strength: 225 lbf, when tested in accordance with ASTM D 751, Grab Method.

Elongation: ultimate of unreinforced membrane (ASTM D 412, Die C) 500 percent.

Tear Strength: ASTM D 751 Procedure B (8 x 8 inch sample) 55 lbf

Brittleness Test: ASTM D 2137 at minus 40 deg C – Pass

Dimensional Stability percent change max (ASTM D 1204 B 1 hr at 212 deg F , W; 6hrs at 176 deg F); Black plus/minus .5 percent; white plus/minus .5 percent

Factory seam strength (ASTM D 816 method B ) sheet failure

Water Absorption (ASTM D 471) 158 deg F for 7 days; Plus 2 percent max weight change.

Ozone Resistance of unreinforced membrane: No cracking when tested in accordance with ASTM D 1149 for 70 hr at 100 deg F

Weather Resistance (Xenon arch: 4000 hrs, EMMAQUA; 2,000,000 Langleys) Pass.

Puncture Resistance (FED STD 101, Method 2031) 350 lb.

Heat Aging (ASTM D 573) 28 days at 212 deg F; break at 225 lbf; elongation of 500 percent.

## MISCELLANEOUS ACCESSORIES

Emergency Roof Drains: See drawings for details.

Lamb's Tongue Wall Outlet: two (2) similar to MIFAB R1940 two piece satin nickel bronze outlet nozzle with pest control screen and anchor flange. Size shall not be less than 4 inches or less than the size of the existing primary drain outlet.

## ACCESSORY MATERIALS

Sheet Seaming System: Manufacturer's standard materials for sealing lapped joints, including edge sealer to cover exposed spliced edges as recommended by membrane manufacturer.

Cant Strips, Tapered Edge Strips, and Flashing Accessories: Types recommended by membrane manufacturer, including adhesive tapes, flashing cements, and sealants.

Flashing Material: Manufacturer's standard system compatible with membrane specified here in.

Slip Sheet: Type recommended by membrane manufacturer for protecting membrane from incompatible substrates.

Mechanical Fasteners: Metal plates, caps, battens, accessory components, fastening devices, and adhesives to suit substrate and as recommended by membrane manufacturer.

Bonding Adhesive: Manufacturer's recommended Bonding Adhesive

Perimeter Sheets: as specified here in.

All purpose Sealant: Use for water cut-off mastic, pitch box sealer and to seal membrane to metal.

Cut Edge Sealant: Use toe seal exposed cut edges of reinforced membrane.

Seam Cleaner: Use to remove contaminates from the surface of the membrane where hot air welding is to occur.

Tapered Edge Strips: Non Combustible, High density fiber board.

Mechanical Fasteners: Type and spacing as required by and supplied by roof membrane manufacturer.

Termination Bar: Termination Bar fastened 6 inches on center, or as required by roof membrane manufacturer.

## PART 2 - EXECUTION

### GENERAL

Do not deviate from this specification without written approval of the manufacturer. Should deviations or changes occur without the manufacturer's approval, the project will not be eligible for warranty coverage.

Do not deviate from this specification without written approval of Ramsay Burgin Smith Architects, Inc.

### EXAMINATION

Verify that surfaces to be bonded to are dry, clean and free of debris. Suitable surfaces are smooth, solid masonry wood, and metal, plus insulation board fastened to the specific manufacturer's recommendations for receiving adhered roofing membranes and accepted by Roofing Manufacturer for adhered application.

Verify that positive roof slope exists in all areas.

Verify that rooftop mechanical units are to have their condensation lines piped to drains or off the roof.

Correct unsuitable conditions before proceeding with insulation. Commencing installation signifies acceptance by the installer of the substrate.

### SUBSTRATE PREPARATION

Prior to the start of work, make the substrate smooth and free of debris, sharp edges, and other surface irregularities that will be detrimental to the installation.

Correct unevenness and joint gaps greater than ¼ inch in the membrane substrate as they can cause inconsistent membrane welds. When such conditions occur fill with appropriate and properly secured insulation or material approved by manufacturer's technical review department

Nailers: Verify that:

Nailers are pressure-preservative treated (fire-retardant-treated where required; creosote and asphaltic preservatives are not acceptable).

Nailers are anchored with fasteners suitable for the application having a minimum withdrawal resistance of 100 lb. Staggered 6 inches on center within 8 feet of an outside corners and 12 inches on center along other perimeter areas.

Top surfaces of nailers match the top surface of adjacent construction plus/minus ¼ inch, without contributing to ponding.

Flashing Substrates: Verify that the substrate is smooth and free of sharp edges and other surface irregularities that will be detrimental to 100-percent adhesion of the flashing membrane.

#### ADHESIVES:

Provide adhesive approved for use by both the membrane and insulation suppliers.

#### FASTENERS – GENERAL

Install fasteners with a depth-sensing screw gun to prevent overdriving or underdriving, unless otherwise approved or required by project conditions.

#### MEMBRANE INSTALLATION

Attachment of Membrane: Fully adhere in accordance with manufacturer's standard details and approved submittals.

Perimeter Sheets: Install perimeter sheets and full-sheet in accordance with fastener pattern specified below, approved shop drawings. Fully adhere along the edge of the membrane through the insulation, and into the roof deck.

Field Sheets: Fully Fasten Membrane with lapped edges in accordance with standard details for Roof Type indicated.

Unroll membrane on the area to be covered.

Install fasteners along the leading edge of the membrane, as illustrated in membrane manufacture's details, through the insulation, and into the roof deck.

Lap adjoining rolls of membrane over the fastened edge of the installed membrane by 5 ½ inches in accordance with standard details for fastener location and specific deck type penetration requirements.

#### SEALING OF MEMBRANE

Lap Splices: Overlap and hot-air weld membrane without any contaminants (adhesive, dirt, debris, etc.) in the seam.

An automatic hot-air welder and hand-held welder that are functionally in top condition are required.

Use hand-held welders for small work and repairs.

Use automatic hot-air welders for field seaming.

Caulk cut edges by applying Cut-Edge Sealant from a squeeze bottle.

#### Welding of Membrane After Exposure:

Remove visible dirt and debris with a clean cloth and water. If necessary, use a detergent cleaner (e.g. Fantastik or 409) followed by a water fines.

With a clean scrub pad saturated with Seam Cleaner, aggressively agitate the seaming area. With a clean white cloth, make a final one-swipe pass over the seaming area, being careful not to redeposit contaminants onto the cleaned surface.

Allow Seam Cleaner to completely flash off (membrane should be completely dry).

Follow the standard hot-air welding procedure with an approximate 20 percent reduction in speed.

Final weld strength may not be achieved for several days.

### FLASHINGS, EXPANSION JOINTS, DRAINS, AND WALKWAYS

Flashing: Flash perimeters, curbs, vents, drains, and other details as shown by manufacturer's Standard Detail Drawings. Do not cover weep holes or any form of through-wall drainage.

Expansion Joints: Install in accordance with membrane manufacturer's details. See drawing details.

Roof Drains/Scuppers: Install in accordance with membrane manufacturer's details.

Properly secure all bolts to provide 100-percent continuous compression of the clamping ring.

Do not run field seams through drains.

### Metal Work:

Install and anchor in a manner that prevents damage from buckling or wind in accordance with SMACNA guidelines or in manner approved by membrane manufacturer.

Seal and waterproof in an acceptable manner to prevent leakage.

Make and install Metal flashing at perimeter in accordance with membrane manufacturer's details.

### FIELD QUALITY CONTROL

Ensure that metal work shall be secured in a manner approved by roof membrane manufacturer, or in accordance with SMACNA guidelines, to prevent damage from buckling, or wind exposure. All metal work that is part of the waterproofing envelope shall be sealed, structurally sound, and approximately anchored to prevent leakage.

### Tests:

Seam Tests: Probe the entire lap edge of each seam with an approved seam-probing tool (cutter-pin extractor) after seam has cooled completely to verify seam consistency. Probing before the seam area has cooled will damage the membrane

Destructive Seam Tests: Test 3-inch wide area of seam weld to verify good peel strength. A properly welded seam will have membrane delamination from scrim prior to weld failure. Perform the following destructive tests on welds:

First seam of each working day.

First seam after the automatic hot-air welder has been allowed to cool down.

After any extreme changes in weather conditions.

Manufacturer's Field Service: Upon completion of the installation, have the manufacturer's representative make an inspection to ascertain that the roofing membrane system has been installed according to manufacturer's approved specifications and details.

Warranty Inspection: Provide manufacturer's inspection for acceptance for warranty.

Rejection of Defective Work: Areas having excessive patching as a result of damage to the membrane or faulty installation may be rejected by membrane manufacturer or the Architect.; replace the membrane completely in these areas.

#### PROTECTION AND CLEANING

Protect membrane in progress and completed membrane from foot and vehicular traffic.

Clean soiled surfaces, remove trash and debris, and leave project site in a clean condition.

END OF SECTION 07533

## SECTION 07600 - FLASHING AND SHEET METAL

### PART 1 - GENERAL

#### DESCRIPTION OF WORK:

Extent of each type of flashing and sheet metal work is indicated on drawings and by provisions of this section.

Types of work specified in this section include the following:

Metal counter flashing.

Miscellaneous sheet metal accessories

Roof parapet area scuppers

Flashing termination bars

Flashing reglets

Roofing accessories which are installed integral with roofing membrane are specified in roofing system sections as roofing work. Vent flashing and curbs as included within this Section.

Roof accessory units of pre-manufactured, set-on type are specified as "Roof Accessories".

Metal counter flashing shall be as recommended and supplied by "Roofing" manufacturer.

#### SUBMITTALS:

Product Data - Flashing, Sheet Metal, Accessories: Submit manufacturer's product data, installation instructions and general recommendations for each specified sheet material and fabricated product.

Samples - Flashing, Sheet Metal, Accessories: Submit 12" long samples of each sheet metal item and accessory used, including gutters, down spouts, straps, flashings, and gravel stops.

Shop Drawings - Flashing, Sheet Metal, Accessories: Submit shop drawings showing layout, joining, profiles, and anchorage of fabricated work, including major counter flashings, trim/fascia units, gutters, down spouts, scuppers and expansion joint systems; layouts at 1/4" scale, details at 3" scale.

#### JOB CONDITIONS:

Coordinate work of this section with interfacing and adjoining work for proper sequencing of each installation. Ensure best possible weather resistance and durability of the work and protection of materials and finishes.

Assign to Roofing Installer portions of this section required to provide necessary interface with roofing material to maintain single source responsibility in case of roof leaks for the extent of the roofing warranty.

### PART 2 - PRODUCTS

#### FLASHING AND SHEET METAL MATERIALS:

##### Sheet Metal Flashing/Trim/Rain Drainage:

**Aluminum: RE- Roofing Work:** (Metal Trim, counterflashing, window flashings and flashings roof edge termination strips): ASTM B 446, alloy 3003, temper H14, clear anodized ; 0.040" thick minimum except as otherwise indicated. Treat with asphaltic compound as required against dissimilar materials.

Miscellaneous Materials and Accessories:

Fasteners: Same metal as flashing/sheet metal or, other noncorrosive metal as recommended by sheet manufacturer. Match finish of exposed heads with material being fastened.

Bituminous Coating:

FS TT-C-494 or SSPC - Paint 12, solvent type bituminous mastic, nominally free of sulfur, compounded for 15-mil dry film thickness per coat.

Solder: For use with steel or copper, provide 50-50 tin/lead solder (ASTM B 32), with resin flux.

Mastic Sealant: Polyisobutylene; nonhardening, nonskinning, nondrying, nonmigrating sealant.

Elastomeric Sealant: Generic type recommended by manufacturer of metal and fabricator of components being sealed; comply with FS TT-S-0027, TT-S-00230, or TT-S-001543.

Epoxy Seam Sealer: 2-part noncorrosive metal seam cementing compound, recommended by metal manufacturer for exterior/interior nonmoving joints including riveted joints.

Adhesives: Type recommended by flashing sheet manufacturer for waterproof/weather-resistant seaming and adhesive application of flashing sheet.

Metal Accessories: Provide sheet metal clips, straps, anchoring devices and similar accessory units as required for installation of work, matching or compatible with material being installed, noncorrosive, size and gage required for performance.

Roofing Cement: ASTM D 2822, asphaltic.

FABRICATED UNITS:

General Metal Fabrication: Shop-fabricate work to greatest extent possible. Comply with details shown, and with applicable requirements of SMACNA "Architectural Sheet Metal Manual" and other recognized industry practices. Fabricate for waterproof and weather-resistant performance; with expansion provisions for running work, sufficient to permanently prevent leakage, damage or deterioration of the work. Form work to fit substrates. Comply with material manufacturer instructions and recommendations for forming material. Form exposed sheet metal work without excessive oil-canning, buckling and tool marks, true to line and levels indicated, with exposed edges folded back to form hems.

Seams: Fabricate nonmoving seams in sheet metal with flat-lock seams. For metal other than aluminum, tin edges to be seamed, form seams, and solder. Form aluminum seams with epoxy seam sealer; rivet joints for additional strength where required.

Expansion Provisions: Where lapped or bayonet-type expansion provisions in work cannot be used, or would not be sufficiently water/weatherproof, form expansion joints of intermeshing hooked flanges, not less than 1" deep, filled with mastic sealant (concealed within joints).

Sealant Joints: Where movable, non-expansion type joints are indicated or required for proper performance of work, form metal to provide for proper installation of elastomeric sealant, in compliance with SMACNA standards.

Separations: Provide for separation of metal from noncompatible metal or corrosive substrates by coating concealed surfaces at locations of contact, with bituminous coating or other permanent separation as recommended by manufacturer/fabricator.

PART 3 - EXECUTION

INSTALLATION REQUIREMENTS:

General: Except as otherwise indicated, comply with manufacturer's installation instructions and recommendations, and with SMACNA "Architectural Sheet Metal Manual". Anchor units of work securely in place by methods indicated, providing for thermal expansion of metal units; conceal fasteners



where possible, and set units true to line and level as indicated. Install work with laps, joints and seams which will be permanently watertight and weatherproof.

Bed flanges of work in a thick coat of cement compatible with membrane where required for waterproof polyethylene underlayment.

Install reglets to receive counter-flashing in manner and by methods indicated. Where shown in masonry, furnish reglets to trades of masonry work, for installation as work of Division 4 sections.

Install counter-flashing in reglets, either by snap-in seal arrangement, or by wedging in place for anchorage and filling reglet with mastic or elastomeric sealant, as indicated and depending on degree of sealant exposure.

Base and Counter Flashing Systems installation methods for flashing the junction of a sloping roof and a masonry wall shall be per SMACNA, Figure 4-8. Two-piece counter flashing installation methods shall be per SMACNA, Figure 4-4C and D.

Install elastic flashing in accordance with manufacturer's recommendations. Where required, provide for movement at joints by forming loops or bellows in width of flashing. Locate cover or filler strips at joints to facilitate complete drainage of water from flashing. Seam adjacent flashing sheets with adhesive, seal and anchor edges in accordance with manufacturer's recommendations.

Nail flanges of expansion joint units to curb nailers, at maximum spacing of 6". Fabricate seams at joints between units with minimum 3" overlap, to form a continuous waterproof system.

#### CLEANING AND PROTECTION:

Clean exposed metal surfaces, removing substances which might cause corrosion of metal or deterioration of finishes.

Protection: Installer shall advise Contractor of required procedures for surveillance and protection of flashings and sheet metal work during construction, to ensure that work will be without damage or deterioration, other than natural weathering, at time of substantial completion.

End of SECTION 07600

## SECTION 07900 - JOINT SEALERS

### PART 1 - GENERAL

#### RELATED DOCUMENTS:

Drawings, General Conditions and Supplementary General Conditions and other Division-1 Specification Sections, apply to this Section.

#### DESCRIPTION OF WORK:

Extent of each form and type of joint sealer is indicated on drawings and described in this section.

Refer to Division-8 Section "Tile" for joint sealers in tile work; not work of this section.

Refer to Division-8 sections for glazing requirements; not work of this section.

#### SYSTEM PERFORMANCES:

Provide joints sealers that have been produced and installed to establish and maintain watertight and airtight continuous seals.

#### QUALITY ASSURANCE:

Single Source Responsibility for Joint Sealer Materials: Obtain joint sealer materials from a single manufacturer for each different product required.

#### SUBMITTALS:

Product Data: Submit manufacturer's technical data for each joint sealer product required, including instructions for joint preparation and joint sealer application and range of manufacturer's standard color selection.

#### DELIVERY, STORAGE, AND HANDLING:

Deliver materials to project site in original unopened containers or bundles with labels informing about manufacturer, product name and designation, color, expiration period for use, pot life, curing time and mixing instructions for multi-component materials.

Store and handle materials to prevent their deterioration or damage due to moisture, temperature change, contaminants, or other causes.

#### PROJECT CONDITIONS:

Environmental Conditions: Do not proceed with installation of joint sealers under the following conditions:

When ambient and substrate temperature conditions are outside the limits permitted by joint sealer manufacturer or below 40 degrees F (4.4 degrees C).

When joint substrates are wet due to rain, frost, condensation or other causes.

Joint Width Conditions: Do not proceed with installation of joint sealers when joint widths are less than allowed by joint sealer manufacturer for application indicated.

### PART 2 - PRODUCTS

#### MATERIALS, GENERAL:

Compatibility: Provide joint sealers, joint fillers and other related materials that are compatible with one another and with joint substrates under conditions of service and application, as demonstrated by testing and field experience.

Colors: Provide color of exposed joint sealer indicated or, if not otherwise indicated, as selected by Architect from manufacturer's standard colors.

#### ELASTOMERIC JOINT SEALANTS:

Elastomeric Sealant Standard: Provide manufacturer's standard chemically curing, elastomeric sealant of base polymer indicated which complies with ASTM C 920 requirements, including those for Type, Grade, Class and Uses.

Multi-Part Nonsag Urethane Sealant: Type M, Grade NS, Class 25, and complying with the following requirements for uses:

Uses NT, M, G, A and, as applicable to joint substrates indicated, O.

Applications: Typical exterior building joints horizontal and vertical between similar and dissimilar materials closing all potential water, air and light leaks.

One-Part Pourable Urethane Sealant: Type S, Grade P; Class 25; Uses T, M, and, as applicable to joint substrates indicated, O.

Applications: Typical all exterior building joints over expansion joints in concrete walkways.

One-Part Mildew-Resistant Silicone Sealant: Type S; Grade NS; Class 25; Uses NT, G, A, and, as applicable to nonporous joint substrates indicated, O; formulated with fungicide for sealing interior joints with nonporous substrates around ceramic tile, showers, sinks and plumbing fixtures.

Applications: Typical all caulking in toilets, kitchens, shower rooms, labs and similar wet areas.

Apply as required to seal all light and air leaks, between counter backsplashes and walls, around door frames, around perimeter of fixtures at walls, etc. whether or not specifically shown on drawings.

Available Products: Subject to compliance with requirements, products which may be incorporated in the work include, but are not limited to, the following:

##### Multi-Part Nonsag Urethane Sealant for Uses NT, M, G, A, and O:

"Chem-Calk 500"; Bostik Construction Products Div.

"Dynatrol II"; Pecora Corp.

"Sikaflex 2c NS"; Sika Corp.

"Sonolastic NP 2"; Sonneborn Building Products Div., Rexnord Chem. Prod. Inc.

##### One-Part, Pourable, Urethane Sealant:

"Vulkem 45"; Mameco International, Inc.

"NR-201 Urexpan"; Pecora Corp.

"Sonolastic SL-1"; Sonneborn B.P.Div., Rexnord Chem Prod. Inc.

##### One-Part Mildew-Resistant Silicone Sealant:

"Dow-Corning 786"; Dow Corning Corp.

"SCS 1702"; General Electric Co.

"863 #345 White"; Pecora Corp.

"Proglaze White"; Tremco Corp.

#### LATEX JOINT SEALANTS:

Acrylic-Emulsion Sealant: Manufacturer's standard, one part, nonsag, acrylic, mildew-resistant, acrylic-emulsion sealant complying with ASTM C 834, formulated to be painted and recommended for exposed applications on interior and on protected exterior exposures involving joint movement of not more than  $\pm 7.5$  percent.

Applications: Typical interior building joints horizontal and vertical between similar and dissimilar materials closing all potential water, air and light leaks.

Available Products: Subject to compliance with requirements, products which may be incorporated in the work include, but are not limited to, the following:

"Chem-Calk 600"; Bostik Construction Products Div.

"AC-20"; Pecora Corp.

"Sonolac"; Sonneborne Building Products Div.; Rexnord Chem. Prod., Inc.

"Tremco Acrylic Latex Caulk"; Tremco Inc.

### JOINT FILLERS FOR CONCRETE PAVING:

General: Provide joint fillers of thickness and widths indicated or if not indicated 1/2" thick.

Bituminous Fiber Joint Filler: Preformed strips of composition below, complying with ASTM D 1751:  
Asphalt saturated fiberboard.

### JOINT SEALANT BACKING:

General: Provide sealant backings of material and type which are non-staining; are compatible with joint substrates, sealants, primers and other joint fillers; and are approved for applications indicated by sealant manufacturer based on field experience and laboratory testing.

Plastic Foam Joint Fillers: Preformed, compressible, resilient, non-waxing, non-extruding strips of plastic foam of material indicated below, and of size, shape and density to control sealant depth and otherwise contribute to producing optimum sealant performance.

Elastomeric Tubing Joint-Fillers: Neoprene, butyl or EPDM tubing complying with ASTM D 1056, non absorbent to water and gas, capable of remaining resilient at temperatures down to -26 degrees F (-15 degrees C). Provide products with low compression set and of size and shape to provide a secondary seal, to control sealant depth and otherwise contribute to optimum sealant performance.

Expanding Foam Sealant Backing: (to provide secondary seal at exterior masonry joints) 100 percent acrylic, water-based impregnated expanding foam sealant. Material to be supplied in rolls, precompressed to less than joint size at mean temperature for installation, with pressure-sensitive mounting adhesive on one side of the material.

Product similar to: Backerseal by Emseal Corp. (or approved equal)

Bond-Breaker Tape: Polyethylene tape or other plastic tape as recommended by sealant manufacturer for preventing bond between sealant and joint filler or other materials at back (3rd) surface of joint. Provide self-adhesive tape where applicable.

### MISCELLANEOUS MATERIALS:

Primer: Provide type recommended by joint sealer manufacturer where required for adhesion of sealant to joint substrates indicated, as determined from preconstruction joint sealer substrate and field tests.

Cleaners for Nonporous Surfaces: Provide non-staining, chemical cleaner of type acceptable to manufacturer of sealant and sealant backing materials which are not harmful to substrates and adjacent nonporous materials.

## PART 3 - EXECUTION

### INSPECTION:

Require installer to inspect joints indicated to receive joint sealers for compliance with requirements for joint configurations, installation tolerances and other conditions affecting joint sealer performance. Obtain Installer's written report listing any conditions detrimental to performance of joint sealer work. Do not allow joint sealer to proceed until unsatisfactory conditions have been corrected.

### PREPARATION:

Surface Cleaning of Joints: Clean out joints immediately before installing joint sealers to comply with recommendations of joint sealer manufacturers and the following requirements:

Remove all foreign material from joint substrates which could interfere with adhesion of joint sealer, including dust; paints, except for permanent, protective coatings tested and approved for sealant adhesion and compatibility by sealant manufacturer; oil; grease; waterproofing; water repellants; water; surface dirt and frost.

Clean concrete, masonry, unglazed surfaces of ceramic tile and similar porous joint substrate surfaces, by brushing, grinding, blast cleaning, mechanical abrading, acid washing or a combination of these methods to produce a clean, sound substrate capable of developing optimum bond with joint

sealers. Remove loose particles remaining from above cleaning operations by vacuuming or blowing out joints with oil-free compressed air.

Remove laitance and form release agents from concrete.

Clean metal, glass, porcelain enamel, glazed surfaces of ceramic tile and other non-porous surfaces by chemical cleaners or other means which are not harmful to substrates or leave residues capable of interfering with adhesion of joint sealers.

Joint Priming: Prime joint substrates where recommended by joint sealer manufacturer based on prior experience. Apply primer to comply with joint sealer manufacturer's recommendations. Confine primers to areas of joint sealer bond, do not allow spillage or migration onto adjoining surfaces.

Masking Tape: Use masking tape where required to prevent contact of sealant with adjoining surfaces which otherwise would be permanently stained or damaged by such contact or by cleaning methods required to remove sealant smears. Remove tape immediately after tooling without disturbing joint seal.

#### INSTALLATION OF JOINT SEALERS:

General: Comply with joint sealer manufacturers' printed installation instructions applicable to products and applications indicated, except where more stringent requirements apply.

Elastomeric Sealant Installation Standard: Comply with recommendations of ASTM C 962 for use of joint sealants as applicable to materials, applications and conditions indicated.

Latex Sealant Installation Standard: Comply with requirements of ASTM C 790 for use of latex sealants.

Installation of Sealant Backings: Install sealant backings to comply with the following requirements:

Install Joint-fillers of type indicated to provide support of sealants during application and at position required to produce the cross-sectional shapes and depths of installed sealants relative to joint widths which allow optimum sealant movement capability.

Do not leave gaps between ends of joint-fillers.

Do not stretch, twist, puncture or tear joint fillers.

Remove absorbent joint-fillers which have become wet prior to sealant application and replace with dry material.

Install bond breaker tape between sealants and joint-fillers, compression seals or back of joints where required to prevent third side adhesion of sealant to back of joint.

Installation of Sealants: Install sealants by proven techniques that result in sealants directly contacting and fully wetting joint substrates, completely filling recesses provided for each joint configuration and providing uniform, cross-sectional shapes and depths relative to joint widths which allow optimum sealant movement capability.

Tooling of Nonsag Sealants: Immediately after sealant application and prior to time skinning or curing begins, tool sealants to form smooth, uniform beads of concave configuration, to eliminate air pockets and to ensure contact and adhesion of sealant with sides of joint. Remove excess sealants from surfaces adjacent to joint. Do not use tooling agents during and after curing period from contact with contaminating substances or from damage resulting from construction operations or other causes so that they are without deterioration or damage at time of substantial completion.

Clean off excess sealants or sealant smears adjacent to joints as work progresses by methods and with cleaning materials approved by manufacturers of joint sealers and of products in which joints occur.

End of SECTION 07900



## SECTION 08410 - ALUMINUM ENTRANCES AND STOREFRONTS

### PART 1 - GENERAL

#### RELATED DOCUMENTS:

Drawings and general provisions of Contract, including General and Supplementary Conditions and Division-1 Specification sections, apply to work of this section.

#### DESCRIPTION OF WORK:

Extent of aluminum entrances and storefronts is shown on drawings and schedules.

Types of aluminum entrances and storefronts required include the following:

Individual storefront framed window units.

Glazing: Refer to "Glass and Glazing" section of Division 8 for glazing requirements for aluminum entrances and storefronts.

#### SYSTEM PERFORMANCES:

General: Provide exterior entrance and storefront assemblies that have been designed and fabricated to comply with requirements for system performance characteristics listed below as demonstrated by testing manufacturer's corresponding stock systems according to test methods designated.

Thermal Movement: Allow for expansion and contract resulting from ambient temperature range of 180 degrees F (100 degrees C) without buckling, failure of joint seals, undue stress on structural elements, damaging loads on fasteners, reduction of performance, stress on glass, or other detrimental effects.

Wind Loading: Provide aluminum entrance and storefront assemblies capable to withstand loading indicated below, tested per A23 STM E 330.

Uniform pressure of 24 pounds per square foot inward and -37 pounds per square foot outward, and to withstand 120 MPH wind design criteria for Rowan County, North Carolina

Air infiltration: maximum 0.37 cfm per foot of crack length at 6.24 psf pressure differential when tested in accordance with ASTM E283.

Water resistance: No uncontrolled water leakage 8.00 psf pressure differential with water rate of 5 gallon/hr. when tested in accordance with ASTM E331.

#### QUALITY ASSURANCE:

Drawings are based on one manufacturer's standard aluminum entrance and storefront system. Another standard system of a similar and equivalent nature will be acceptable when differences do not materially detract from design concept or intended performances, as judged solely by Architect.

#### SUBMITTALS:

Product Data: Submit manufacturer's specifications, standard details, and installation recommendations for components of aluminum entrances and storefronts required for project, including test reports certifying that products have been tested and comply with performance requirements.

Shop Drawings: Submit shop drawings for fabrication and installation of aluminum entrances and storefronts, including elevations, detail sections of typical composite members, hardware mounting heights, anchorages, reinforcement, expansion provisions, and glazing.

Hardware Schedule: Submit complete hardware schedule organized into sets based on hardware specified. Coordinate hardware with doors, frames, and related work to ensure proper size, thickness, hand, function, and finish. Include item name, name of the manufacturer and complete designations of every item required for each door opening.

Samples of Initial Color Selection: Submit pairs of samples of each specified color and finish on 12 inch long sections of extrusions or formed shapes. Where normal color variations are anticipated, include 2 or more units in each set of samples indicating extreme limits of color variations.

## WARRANTY

Warranty: Submit a written warranty, executed by the manufacturer, agreeing to repair or replace units that fail in materials or workmanship within the specified warranty period. Failures include, but are not necessarily limited to:

- Structural failures including excessive deflection, excessive leakage or air infiltration.
- Faulty operation.
- Deterioration of metals, metal finishes and other materials beyond normal weathering.

Warranty Period: 3 years after the date of Substantial Completion.

The warranty shall not deprive the Owner of other rights or remedies the Owner may have under provisions of the Contract Documents, and is in addition to and runs concurrent with other warranties made by the Contractor under requirements of the Contract Documents.

## PART 2 - PRODUCTS

### ACCEPTABLE MANUFACTURERS:

Available Manufacturers: Subject to compliance with requirements, manufacturers offering products, which may be incorporated in the work, include, but are not limited to, the following:

- Kawneer Company, Inc.
- Vistawall Architectural Products.
- United States Aluminum Corp.
- YKK America, Inc.
- Arch / Amarlite Architectural Products
- Efco Aluminum

### COMPONENTS:

Storefront Framing System: Provide storefront and entrance framing systems fabricated from extruded aluminum members of size and profile indicated. Include sub frames and other reinforcing members of the type indicated. Provide for flush glazing storefront from the exterior on all sides without projecting stops. Shop fabricate and preassemble frame components where possible. Provide storefront frame sections without exposed seams.

Mullion Configurations: Provide pockets at the inside glazing face to receive resilient elastomeric glazing. Mullions and horizontals shall be one piece. Make provisions to drain moisture accumulation to the exterior.



1. Storefront Framing 2" x 4-1/2" (for 1" glass).

Generally, center glazed framing system shall provide for flush glazing on all sides with no projecting stops. Vertical and horizontal framing members shall have a **nominal face dimension of 2"**. Overall **depth shall be 4-1/2"** with a glass pocket width to accommodate **1" glazing**. Framing shall be thermally broken. Entrance framing members shall be compatible with glass framing in appearance.

MATERIALS AND ACCESSORIES:

Aluminum Members: Alloy and temper recommended by manufacturer for strength, corrosion resistance, and application of required finish; ASTM B 221 for extrusions, ASTM B 209 for sheet/plate, and ASTM B 211 for aluminum bars, rods, and wire.

Carbon steel reinforcement of aluminum framing members shall comply with ASTM A 36 for structural shapes, plates and bars, ASTM A 611 for cold rolled sheet and strip, or ASTM A 570 for hot rolled sheet and strip.

Fasteners: Aluminum, non-magnetic stainless steel, or other materials warranted by manufacturer to be noncorrosive and compatible with aluminum components.

Do not use exposed fasteners except where unavoidable for application of hardware. Match finish of adjoining metal.

Provide Phillips flat-head machine screws for exposed fasteners.

Concealed Flashing: Dead-soft stainless steel, 26 gage minimum, or extruded aluminum, 0.026" minimum, of an alloy and type selected by manufacturer for compatibility with other components.

Brackets and Reinforcements: Manufacturer's high-strength aluminum units where feasible; otherwise, nonmagnetic stainless steel or hot-dip galvanized steel complying with ASTM A 123.

Concrete/Masonry Inserts: Cast iron, malleable iron, or hot-dip galvanized steel complying with ASTM A 123.

Bituminous Coatings: Cold-applied asphalt mastic complying with SSPC - PS 12, compounded for 30-mil thickness per coat.

Compression Weather-stripping: Manufacturer's standard replaceable stripping of either molded neoprene gaskets complying with ASTM D 2000 or molded PVC gaskets complying with ASTM D 2287.

Sliding Weather-stripping: Manufacturer's standard replaceable stripping of wool, polypropylene, or nylon woven pile, with nylon fabric or aluminum strip backing, complying with AAMA 701.2.

Glass and Glazing Materials: Provide glass and glazing materials which comply with requirements of "Glass and Glazing" section of these specifications.

FABRICATION:

General:

Sizes and Profiles: Required sizes for door and frame units, including profile requirements, are indicated on drawings. Any variable dimensions are indicated, together with maximum and minimum dimensions required to achieve design requirements and coordination with other work.

**Prefabrication:** To greatest extent possible, complete fabrication, assembly, finishing, hardware application, and other work before shipment to project site. Disassemble components only as necessary for shipment and installation.

**Perform fabrication** operations, including cutting, fitting, forming, drilling and grinding of metal work in manner which prevents damage to exposed finish surfaces. For hardware, perform these operations prior to application of finishes.

**Sequence:** Complete cutting, fitting, forming, drilling, and grinding of metal work prior to cleaning, finishing, surface treatment, and application of finishes. Remove arises from cut edges and ease edges and corners to radius of approximately 1/64".

**Welding:** Comply with AWS recommendations to avoid discoloration; grind exposed welds smooth and restore mechanical finish.

**Reinforcing:** Install reinforcing as necessary for performance requirements; separate dissimilar metals with bituminous paint or other separator, which will prevent corrosion.

**Continuity:** Maintain accurate relation of planes and angles, with hairline fit of contacting members.

**Fasteners:** Conceal fasteners wherever possible. Provide non corrosive exposed fasteners.

## **ALUMINUM FINISHES**

**General:** Comply with NAAMM's "Metal Finishes Manual for Architectural and Metal Products" for recommendations relative to applying and designating finishes. All exposed framing surfaces shall be free of scratches and other serious blemishes.

**Aluminum framing and trim** at windows shall be given a caustic etch followed by an anodic oxide treatment to obtain an Architectural Class II clear anodized finish conforming to Aluminum Association standard AA-M12 C22 A31 (#17 Clear), .4 mils thick min.

## **PART 3 - EXECUTION**

### **PREPARATION:**

**Field Measurement:** Wherever possible, take field measurements prior to preparation of shop drawings and fabrication, to ensure proper fitting of work. However, proceed with fabrication and coordinate installation tolerances as necessary when field measurements might delay work.

### **INSTALLATION:**

**Comply with manufacturer's instructions** and recommendations for installation of aluminum entrances and storefronts.

**Set units plumb,** level, and true to line, without warp or rack of framing members, doors, or panels. Anchor securely in place, separating aluminum and other corrodible metal surfaces from sources of corrosion or electrolytic action at points of contact with other materials.

**Drill and tap** frames and doors and apply surface-mounted hardware items, complying with hardware manufacturer's instructions and template requirements. Use concealed fasteners wherever possible.

Set sill members and other members in bed of sealant as indicated, or with joint fillers or gaskets as shown to provide weather tight construction. Comply with requirements of Division 7 for sealants, fillers, and gaskets.

Refer to "Glass and Glazing" section of Division 8 for installation of glass and other panels shown to be glazed into doors and framing, and not preglazed by manufacturer.

ADJUST AND CLEAN:

Adjust operating hardware to function properly, without binding, and to provide tight fit at contact points and weather-stripping.

Clean completed system, inside and out, promptly after erection and installation of glass and sealants. Remove excess glazing and joint sealants, dirt, and other substances from aluminum surfaces.

Remove protective coating when completion of construction activities no longer requires its retention.

Institute protective measures and other precautions required to assure that aluminum entrances and storefronts will be without damage or deterioration, other than normal weathering, at time of acceptance.

End of SECTION 08410

## SECTION 08800 - GLASS AND GLAZING

### PART 1 - GENERAL

#### RELATED DOCUMENTS:

Drawings and general provisions of Contract, including General and Supplementary Conditions and Division-1 Specification sections, apply to work of this section.

#### DESCRIPTION OF WORK:

Definitions: "Glass" includes both primary and fabricated glass products as described in FMGA "Glazing Manual". "Glazing" includes glass installation and materials used to install glass.

Extent of glass and glazing work is indicated on drawings and schedule attached at end of this section.

Types of work in this section include glass, insulating glass, and glazing for:

Window units, not indicated as "preglazed".

#### SYSTEM PERFORMANCES:

Provide glass and glazing that has been produced, fabricated and installed to withstand normal temperature changes, wind loading, impact loading (where applicable), without failure including loss or breakage of glass, failure of sealants or gaskets to remain watertight and airtight, deterioration of glass and glazing materials, and other defects in the work.

Provide insulating glass and glazing that has been produced, fabricated and installed to withstand normal temperature changes, wind loading, impact loading (where applicable), without failure including loss or breakage of glass, failure of sealants or gaskets to remain watertight and airtight, deterioration of insulating glass and glazing materials, and other defects in the work. Deterioration of insulating glass in defined as failure of hermetic seal due to other causes than breakage which results in intrusion of dirt or moisture, internal condensation or fogging at temperatures above -20 degrees F (-28 degrees C), deterioration of protected internal glass coating, if any, resulting from seal failure, and other visual evidence of seal failure or performance.

#### QUALITY ASSURANCE:

Glazing Standards: Comply with recommendations of Flat Glass Marketing Association (FMGA) "Glazing Manual" and "Sealant Manual" except where more stringent requirements are indicated. Refer to those publications for definitions of glass and glazing terms not otherwise defined in this section or other referenced standards.

Safety Glazing Standard: Where safety glass is indicated or required by authorities having jurisdiction, provide type of products indicated which comply with ANSI Z97.1 and testing requirements of 16 CFR Part 1201 for category II materials.

Insulating Glass Certification Program: Subject to compliance with requirements, provide insulating glass units permanently marked either on spacers or on at least one component pane of units with appropriate certification label of inspecting and testing organization indicated below.

Insulating Glass Certification Council (IGCC).  
Associated Laboratories, Inc. (ALI).

Single Source Responsibility: Provide materials obtained from one source for each type of glass and glazing product indicated.

DELIVERY, STORAGE, AND HANDLING:

Protect glass and glazing materials during delivery, storage and handling to comply with manufacturer's directions and as required to prevent edge damage to glass, and damage to glass and glazing materials from effects of moisture including condensation, of temperature changes, of direct exposure to sun, and from other causes.

PROJECT CONDITIONS:

Comply with manufacturer's instructions for shipping, storing and handling insulating glass units, including protection of edges.

Where substantial altitude changes will be made, comply with venting-and-sealing recommendations to avoid hermetic seal ruptures.

SPECIFIED PRODUCT WARRANTY:

Manufacturer's Warranty on Insulating Glass: Provide written warranty signed by manufacturer of laminated glass agreeing to furnish f.o.b. point of manufacture, freight allowed project site, within specified warranty period indicated below, insulating glass units which develop manufacturing defects. Manufacturing defects are defined as failure of hermetic seal of air space (beyond that due to glass breakage) as evidenced by intrusion of dirt or moisture, internal condensation or fogging at temperature above -20 degrees F (-29 degrees C), deterioration of protected internal glass coatings, if any, and other visual indications of seal failure or performance; provided the manufacturer's instructions for handling, installing, protecting and maintaining units have been complied with during the warranty period.

Warranty Period: Manufacturer's standard but not less than 10 years after date of substantial completion.

PART 2 - PRODUCTS

ACCEPTABLE MANUFACTURERS:

Available Manufacturers: Subject to compliance with requirements, manufacturers offering products which may be incorporated in the work include; but are not limited to, the following:

Manufacturers of Clear Float and Tempered Glass:

AFG Industries, Inc.  
Ford Motor Co., Glass Div.  
Guardian Industries Corp.  
Libby-Owens-Ford Co.  
Oldcastle Glass Co.  
PPG Industries Inc.

Manufacturers of Insulating Glass Products:

Advanced Coating Technology.

AFG Industries, Inc.  
Ford Motor Co. Glass Div.  
Hordis Brothers, Inc.  
Libbey-Owens-Ford Co.  
PPG Industries, Inc.

GLASS PRODUCTS, GENERAL:

Primary Glass Standard: Provide primary glass which complies with FS DD-G-451 requirements, including those indicated by reference to type, class, quality, and form.

Heat-Treated Glass Standard: Provide heat-treated glass which complies with FS DD-G-1403 requirements, including those indicated by reference to grade, style, type, quality, and class.

Sizes: Fabricate glass to sizes required for glazing openings indicated, with edge clearances and tolerances complying with recommendations of glass manufacturer. Provide thicknesses indicated or, if not otherwise indicated, as recommended by glass manufacturer for application indicated.

Insulating Glass Standard: Provide preassembled sealed insulating glass units which comply with ASTM E 774 requirements for classification designated below:

Class A.

PRIMARY GLASS PRODUCTS:

Clear Float Glass: Type I, class 1 (transparent), quality q3 (glazing select).

HEAT-TREATED GLASS PRODUCTS:

Manufacturing Process: Manufacture heat-treated glass as follows:

Clear and Tinted Tempered Float Glass: Grade B (fully tempered), style I (uncoated surfaces), type I (float), quality q3 (glazing quality), class 1 (transparent).

Tinted Heat-Strengthened Float Glass: Grade A (heat strengthened), style I (uncoated surfaces), type I (float), quality q3 (glazing select), class 1 (transparent).

SEALED INSULATING GLASS UNITS:

General: Provide preassembled units consisting of organically sealed panes of glass enclosing a hermetically sealed dehydrated air space; comply with requirements indicated for glass characteristics, air space, sealing system, sealant, spacer material, corner design, and dessicant.

Provide "Low-E" coating: on the #2 surface meeting the following requirements:

U-value of .31 daytime, .35 nighttime (U value = Btu/hour x sq. ft. x degrees F).

Minimum Solar Energy reflectance of 12%.

Provide heat-treated panes of grade and at locations indicated or, if not indicated, provide heat-strengthened panes where recommended by manufacturer for application indicated and tempered where indicated or where safety glass is designated or required.

### GLAZING SEALANTS:

General: Comply with recommendations of sealant and glass manufacturers for selection of glazing sealants which have performance characteristics suitable for applications indicated and conditions at time of installation.

Compatibility: Select sealants with proven compatibility with surfaces contacted in the installation and under service conditions indicated, as demonstrated by testing and field experience.

Colors: Provide color of exposed sealants indicated or, if not otherwise indicated, as selected by Architect from manufacturer's standard colors.

2-Part Polysulfide Glazing Sealant: Polysulfide elastomeric sealant complying with FS TT-S-00227, Class A, Type 2; and with ASTM C 920, Type M, Grade NS, Class 25, Use G and, as applicable to use indicated, Uses A and O.

Uses: Typical glazing unless noted otherwise.

Acrylic Glazing Sealant: Acrylic terpolymer or polypropenatate solvent-based thermo-plastic 1-part sealant complying with FS TT-S-00230, Class B, Type II; and with ASTM C 920, Type S, Grade NS, Class 12-1/2, Use G and, as applicable to use indicated, Uses A and O.

Use: Interior glazing conditions only.

Available Products: Subject to compliance with requirements, products which may be incorporated in the work include, but are not limited to, the following:

#### 2-Part Polysulfide Glazing Sealants:

Sonolastic Two-Part; Sonneborn Building Products Div., Rexnord Chemical Products, Inc.  
Chem-Calk 100; Woodmont Products, Inc.

#### Acrylic Glazing Sealants:

60+; Pecora Corp.  
Mono; Tremco.  
Chem-Calk 800; Woodmont Products, Inc.

### GLAZING GASKETS:

Lock-Strip Gaskets: Neoprene extrusions of size and shape indicated, fabricated into frames with molded corner units and zipper lock strips, complying with ASTM C 542; black.

Dense Elastomeric Compression Seal Gaskets: Molded or extruded neoprene or EPDM gaskets of profile and hardness required to maintain watertight seal; complying with ASTM C 864, Option 1.

### MISCELLANEOUS GLAZING MATERIALS:

Compatibility: Provide materials with proven record of compatibility with surfaces contacted in installation.

Cleaners, Primers, and Sealers: Type recommended by sealant or gasket manufacturer.

Setting Blocks: Neoprene, EPDM or silicone blocks as required for compatibility with glazing sealants, 80 to 90 Shore A durometer hardness.

Spacers: Neoprene, EPDM or silicone blocks, or continuous extrusions, as required for compatibility with glazing sealant, of size, shape and hardness recommended by glass and sealant manufacturers for application indicated.

Edge Blocks: Neoprene, EPDM or silicone blocks as required for compatibility with glazing sealant, of size and hardness required to limit lateral movement (side-walking) of glass.

Compressible Filler Rods: Closed-cell or waterproof-jacketed rod stock of synthetic rubber or plastic foam, flexible and resilient, with 5-10 psi compression strength for 25% deflection.

### PART 3 - EXECUTION

#### INSPECTION:

Require Glazier to inspect work of glass framing erector for compliance with manufacturing and installation tolerances, including those for size, squareness, offsets at corners; for presence and functioning of weep system; for existence of minimum required face or edge clearances; and for effective sealing of joinery. Obtain Glazier's written report listing conditions detrimental to performance of glazing work. Do not allow glazing work to proceed until unsatisfactory conditions have been corrected.

#### PREPARATION:

Clean glazing framing members to receive glass, immediately before glazing. Remove coatings which are not firmly bonded to substrates.

#### GLAZING, GENERAL:

Comply with combined printed recommendations of glass manufacturers, of manufacturers of sealants, gaskets and other glazing materials, except where more stringent requirements are indicated, including those of referenced glazing standards.

Glazing channel dimensions as indicated in details are intended to provide for necessary bite on glass, minimum edge and face clearances, and adequate sealant thicknesses, with reasonable tolerances. Adjust as required by job conditions at time of installation.

Protect glass from edge damage during handling and installation; use a rolling block in rotating glass units to prevent damage to glass corners. Do not impact glass with framing. Use suction cups to shift glass units within openings; do not raise or drift glass with a pry bar. Rotate glass with flares or bevels along one horizontal edge which would occur in vicinity of setting blocks so that these are located at top of opening. Remove from project and dispose of glass units with edge damage or other imperfections of kind that, when installed, weakens glass and impairs performance and appearance.

Apply primers to joint surfaces where required for adhesion of sealants, as determined by preconstruction sealant-substrate testing.

#### GLAZING:

Install setting blocks of proper size in sill rabbet, located one quarter of glass width from each corner, but no closer than 6", unless otherwise required. Set blocks in thin course of sealant which is acceptable for heel bead use.



Provide spacers inside and out, of correct size and spacing to preserve required face clearances, for glass sizes larger than 50 united inches, except where gaskets or glazing tapes with continuous spacer rods are used for glazing. Provide 1/8" minimum bite of spacers on glass and use thickness equal to sealant width, except with sealant tape use thickness slightly less than final compressed thickness of tape.

Provide edge blocking to comply with requirements of referenced glazing standard, except where otherwise required by glass unit manufacturer.

Set units of glass in each series with uniformity of pattern, draw, bow and similar characteristics.

Provide compressible filler rods or equivalent back-up material, as recommended by sealant and glass manufacturers, to prevent sealant from extruding into glass channel weep systems and from adhering to joints back surface as well as to control depth of sealant for optimum performance, unless otherwise indicated.

Force sealants into glazing channels to eliminate voids and to ensure complete "wetting" or bond of sealant to glass and channel surfaces.

Tool exposed surfaces of sealants to provide a substantial "wash" away from glass. Install pressurized tapes and gaskets to protrude slightly out of channel, so as to eliminate dirt and moisture pockets.

Where wedge-shaped gaskets are driven into one side of channel to pressurize sealant or gasket on opposite side, provide adequate anchorage to ensure that gasket will not "walk" out when installation is subjected to movement.

Miter cut wedge-shaped gaskets at corners and install gaskets in manner recommended by gasket manufacturer to prevent pull away at corners; seal corner joints and butt joints with sealant recommended by gasket manufacturer.

Lock-Strip Gasket Glazing: Comply with ASTM C 716 and gasket manufacturer's printed recommendations. Provide supplementary wet seal and weep system unless otherwise indicated.

#### PROTECTION AND CLEANING:

Protect exterior glass from breakage immediately upon installation by use of crossed streamers attached to framing and held away from glass. Do not apply markers to surfaces of glass. Remove nonpermanent labels and clean surfaces.

Protect glass from contact with contaminating substances resulting from construction operations. If, despite such protection, contaminating substances do come into contact with glass, remove immediately by method recommended by glass manufacturer.

Remove and replace glass which is broken, chipped, cracked, abraded or damaged in other ways during construction period, including natural causes, accidents and vandalism.

Wash glass on both faces not more than 4 days prior to date scheduled for inspections intended to establish date of substantial completion in each area of project. Wash glass by method recommended by glass manufacturer.

## GLAZING SCHEDULE

### EXTERIOR:

#### Aluminum Storefront Windows—

1" thick **Solar GREY TINTED** Insulated Units:

interior light -	3/16"	Tempered "Low E"
air space -	5/8"	
exterior light	3/16"	Tempered

END OF SECTION 08800

## SECTION 09900 - PAINTING

### PART 1 - GENERAL

#### RELATED DOCUMENTS:

Drawings and general provisions of Contract, including General and Supplementary Conditions and Division-1 Specification sections, apply to work of this section.

#### DESCRIPTION OF WORK:

Extent of painting work is indicated on drawings and schedules, and as herein specified.

Work includes painting and finishing of interior and exterior exposed items and surfaces throughout Project, except as otherwise indicated.

Surface preparation, priming and coats of paint specified are in addition to shop-priming and surface treatment specified under other sections of work.

**Painting work of this project is primarily exterior painting.**

Work includes field painting of exposed bare and covered pipes and ducts (including color coding), and of hangers, exposed steel and iron work, and primed metal surfaces of equipment installed under mechanical and electrical work, except as otherwise indicated.

"Paint" as used herein means all coating systems materials, including primers, emulsions, enamels, stains, sealers and fillers, and other applied materials whether used as prime, intermediate or finish coats.

Surfaces to be Painted: Except where natural finish of material is specifically noted as a surface not to be painted, paint exposed surfaces whether or not colors are designated. Where items or surfaces are not specifically mentioned, paint the same as similar adjacent materials or areas. If color or finish is not designated, Architect will select these from standard colors or finishes available.

Following categories of work are not included as part of field-applied finish work.

Pre-Finished Items: Unless otherwise indicated, do not include painting when factory-finishing or installer-finishing is specified for such items as (but not limited to) metal toilet enclosures, prefinished partition systems, acoustic materials, architectural woodwork and casework and finished mechanical and electrical equipment, including light fixtures, switchgear and distribution cabinets.

Concealed Surfaces: Unless otherwise indicated, painting is not required on surfaces such as walls or ceilings in concealed areas and generally inaccessible areas, foundation spaces, furred areas, utility tunnels, pipe spaces, duct shafts and elevator shafts.

Finished Metal Surfaces: Unless otherwise indicated, metal surfaces of anodized aluminum, stainless steel, chromium plate, copper, bronze and similar finished materials will not require finish painting.

Operating Parts: Unless otherwise indicated, moving parts of operating units, mechanical and electrical parts, such as valve and damper operators, linkages, sinkages, sensing devices, motor and fan shafts will not require finish painting.

Following categories of work are included under other sections of these specifications.

Shop Primers: Unless otherwise specified, shop priming of ferrous metal items is included under various sections for structural steel, metal fabrications, hollow metal work and similar items.

Do not paint over any code-required labels, such as Underwriters' Laboratories and Factory Mutual, or any equipment identification, performance rating, name, or nomenclature plates.

#### QUALITY ASSURANCE:

Single Source Responsibility: Provide primers and other undercoat paint produced by same manufacturer as finish coats. Use only thinners approved by paint manufacturer, and use only within recommended limits.

Coordination of Work: Review other sections of these specifications in which prime paints are to be provided to ensure compatibility of total coatings system for various substrates. Upon request from other trades, furnish information or characteristics of finish materials provided for use, to ensure compatible prime coats are used.

#### SUBMITTALS:

Product Data: Submit manufacturer's technical information including Paint label analysis and application instructions for each material proposed for use.

Samples: Prior to beginning work, Architect will furnish color chips for surfaces to be painted. Use representative colors when preparing samples for review. Submit samples for Architect's review of color and texture only. Provide a listing of material and application for each coat of each finish sample.

On 12" x 12" hardboard, provide two samples of each color and material, with texture to simulate actual conditions. Resubmit samples as requested by Architect until acceptable sheen, color, and texture is achieved.

On actual wood surfaces, provide two 4" x 8" samples of natural and stained wood finish. Label and identify each as to location and application.

#### DELIVERY AND STORAGE:

Deliver materials to job site in original, new and unopened packages and containers bearing manufacturer's name and label.

Store materials not in actual use in tightly covered containers. Maintain containers used in storage of paint in a clean condition, free of foreign materials and residue.

Protect from freezing where necessary. Keep storage area neat and orderly. Remove oily rags and waste daily. Take all precautions to ensure that workmen and work areas are adequately protected from fire hazards and health hazards resulting from handling, mixing and application of paints.

#### JOB CONDITIONS:

Apply water-base paints only when temperature of surfaces to be painted and surrounding air temperatures are between 50 degrees F. and 90 degrees F., unless otherwise permitted by paint manufacturer's printed instructions.

Apply solvent-thinned paints only when temperature of surfaces to be painted and surrounding air temperatures are between 45 degrees F. and 95 degrees F., unless otherwise permitted by paint manufacturer's printed instructions.

Do not paint in snow, rain, fog or mist, or when relative humidity exceeds 85%, or to damp or wet surfaces, unless otherwise permitted by paint manufacturer's printed instructions.

Painting may be continued during inclement weather if areas and surfaces to be painted are enclosed and heated within temperature limits specified by paint manufacturer during application and drying periods.

## PART 2 - PRODUCTS

### ACCEPTABLE MANUFACTURERS:

Available Manufacturers: Subject to compliance with requirements, manufacturers offering products which may be incorporated in the work include, but are not limited to, the following:

Benjamin Moore and Co. (Moore).  
PPG Industries, Pittsburgh Paints (Pittsburgh).& ICI/Glidden Coatings and Resins,(ICI).  
The Sherwin-Williams Company (S-W) & Duron Inc.

### MATERIALS:

Material Quality: Provide best quality grade of various types of coatings as regularly manufactured by acceptable paint materials manufacturers. Materials not displaying manufacturer's identification as a standard, best-grade product will not be acceptable.

Proprietary names used to designate color or materials are not intended to imply that products of named manufacturers are required to exclusion of equivalent products of other manufacturers.

Color Pigments: Pure, non-fading, applicable types to suit substrates and service indicated.

Lead content in pigment, if any, is limited to contain not more than 0.06% lead, as lead metal based on the total non-volatile (dry-film) of paint by weight.

This limitation is extended to interior surfaces and those exterior surfaces, such as stairs, decks, porches, railings, windows, and doors which are readily accessible to children under seven years of age.

## PART 3 - EXECUTION

### INSPECTION:

Applicator must examine areas and conditions under which painting work is to be applied and notify Contractor in writing of conditions detrimental to proper and timely completion of work. Do not proceed with work until unsatisfactory conditions have been correct in a manner acceptable to Applicator.

Starting of painting work will be construed as Applicator's acceptance of surfaces and conditions within any particular area.

Do not paint over dirt, rust, scale, grease, moisture, scuffed surfaces, or conditions otherwise detrimental to formation of a durable paint film.

### SURFACE PREPARATION:

General: Perform preparation and cleaning procedures in accordance with paint manufacturer's instructions and as herein specified, for each particular substrate condition.

Provide barrier coats over incompatible primers or remove and reprime as required. Notify Architect in writing of any anticipated problems in using the specified coating systems with substrates primed by others.

Remove hardware, hardware accessories, machined surfaces, plates, lighting fixtures, and similar items in place and not to be finish-painted, or provide surface-applied protection prior to surface preparation and painting operations. Remove, if necessary, for complete painting of items and adjacent surfaces. Following completion of painting of each space or area, reinstall removed items.

Clean surfaces to be painted before applying paint or surface treatments. Remove oil and grease prior to mechanical cleaning. Program cleaning and painting so that contaminants from cleaning process will not fall onto wet, newly-painted surfaces.

Cementitious Materials: Prepare cementitious surfaces of concrete, concrete block, cement plaster and cement-asbestos board to be painted by removing efflorescence, chalk, dust, dirt, grease, oils, and by roughening as required to remove glaze.

Determine alkalinity and moisture content of surfaces to be painted by performing appropriate tests. If surfaces are found to be sufficiently alkaline to cause blistering and burning of finish paint, correct this condition before application of paint. Do not paint over surfaces where moisture content exceeds that permitted in manufacturer's printed directions.

Wood: Clean wood surfaces to be painted of dirt, oil, or other foreign substances with scrapers, mineral spirits, and sandpaper, as required. Sandpaper smooth those finished surfaces exposed to view, and dust off. Scrape and clean small, dry, seasoned knots any apply a thin coat of white shellac or other recommended knot sealer, before application of priming coat. After priming, fill holes and imperfections in finish surfaces with putty or plastic wood-filler. Sandpaper smooth when dried.

Prime, stain, or seal wood required to be job-painted immediately upon delivery to job. Prime edges, ends, faces, undersides, and backsides of such wood, including cabinets, counters, cases, paneling.

When transparent finish is required, use spar varnish for backpriming.

Backprime paneling on interior partitions only where masonry, plaster, or other wet wall construction occurs on backside.

Seal tops, bottoms, and cut-outs of unprimed wood doors with a heavy coat of varnish or equivalent sealer immediately upon delivery to job.

Ferrous Metals: Clean ferrous surfaces, which are not galvanized or shop-coated, of oil, grease, dirt, loose mill scale and other foreign substances by solvent or mechanical cleaning.

Touch-up shop-applied prime coats wherever damaged or bare, where required by other sections of these specifications. Clean and touch-up with same type shop primer.

Galvanized Surfaces: Clean free of oil and surface contaminants with non-petroleum based solvent.

### MATERIALS PREPARATION:

Mix and prepare painting materials in accordance with manufacturer's directions.

Maintain containers used in mixing and application of paint in a clean condition, free of foreign materials and residue.

Stir materials before application to produce a mixture of uniform density, and stir as required during application. Do not stir surface film into material. Remove film and, if necessary, strain material before using.

### APPLICATION:

General: Apply paint in accordance with manufacturer's directions. Use applicators and techniques best suited for substrate and type of material being applied.

Paint colors, surface treatments, and finishes, are indicated in "schedules" of the contract documents.

Provide finish coats which are compatible with prime paints used.

Apply additional coats when undercoats, stains or other conditions show through final coat of paint, until paint film is of uniform finish, color and appearance. Give special attention to insure that surfaces, including edges, corners, crevices, welds, and exposed fasteners receive a dry film thickness equivalent to that of flat surfaces.

Paint surfaces behind movable equipment and furniture same as similar exposed surfaces. Paint surfaces behind permanently- fixed equipment or furniture with prime coat only before final installation of equipment.

Paint interior surfaces of ducts, where visible through registers or grilles, with a flat, non-specular black paint.

Paint back sides of access panels, and removable or hinged covers to match exposed surfaces.

Finish exterior doors on tops, bottoms and side edges same as exterior faces, unless otherwise indicated.

Sand lightly between each succeeding enamel or varnish coat.

Omit first coat (primer) on metal surfaces which have been shop-primed and touch-up painted, unless otherwise indicated.

Scheduling Painting: Apply first-coat material to surfaces that have been cleaned, pretreated or otherwise prepared for painting as soon as practicable after preparation and before subsequent surface deterioration.

Allow sufficient time between successive coatings to permit proper drying. Do not recoat until paint has dried to where it feels firms, does not deform or feel sticky under moderate thumb pressure, and application of another coat of paint does not cause lifting or loss of adhesion of the undercoat.

Minimum Coating Thickness: Apply materials at not less than manufacturer's recommended spreading rate, to establish a total dry film thickness as indicated or, if not indicated, as recommended by coating manufacturer.

Mechanical and Electrical Work: Painting of mechanical and electrical work is limited to those items exposed to mechanical equipment rooms and in occupied spaces.

Mechanical items to be painted include, but are not limited to, the following:

Piping, pipe hangers, and supports.  
Accessory items.

Electrical items to be painted include, but are not limited to, the following:

Conduit and fittings.

Prime Coats: Apply prime coat of material which is required to be painted or finished, and which has not been prime coated by others.

Recoat primed and sealed surfaces where there is evidence of suction spots or unsealed areas in first coat, to assure a finish coat with no burn-through or other defects due to insufficient sealing.

Pigmented (Opaque) Finishes: Completely cover to provide an opaque, smooth 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.

Transparent (Clear) Finish: Use multiple coats to produce glass-smooth surface film of even luster. Provide a finish free of laps, cloudiness, color irregularity, runs, brush marks, orange peel, nail holes, or other surface imperfections.

Provide satin finish for final coats, unless otherwise indicated.

Completed Work: Match approved samples for color, texture and coverage. Remove, refinish or repaint work not in compliance with specified requirements.

The right is reserved by the Owner to invoke any testing procedure at any time, and any number of times, to verify quality and quantity of field paint. The cost of test(s) shall be paid by owner, unless test(s) indicates sub-specified conditions. Cost will be shared for this pro-rated on the amount of sub-par paint application.

#### CLEAN-UP AND PROTECTION:

Clean-Up: During progress of work, remove from site discarded paint materials, rubbish, cans and rags at end of each work day.

Upon completion of painting work, clean window glass and other paint spattered surfaces. Remove spattered paint by proper methods of washing and scraping, using care not to scratch or otherwise damage finished surfaces.

Protection: Protect work of other trades, whether to be painted or not, against damage by painting and finishing work. Correct any damage by cleaning, repairing or replacing, and repainting, as acceptable to Architect.

Provide "Wet Paint" signs as required to protect newly-painted finishes. Remove temporary protective wrappings provided by others for protection of their work, after completion of painting operations.

At completion of work of other trades, touch-up and restore all damaged or defaced painted surfaces.



EXTERIOR PAINT SCHEDULE:

General: Provide the following Paint systems for the various substrates, as indicated.

**WHEN INSTALLING NEW PAINT OVER EXISTING PAINTED SURFACES, REVISE THIS SPECIFICATION FOR COMPATIBLE ALKYD OR LATEX PAINT AS EXISTING CONDITION REQUIRES.**

Ferrous Metal and Prepainted surfaces: Scape and prepare existing surfaces are required for a smooth uniform final paint appearance.

Full-Gloss Alkyd Enamel: 2 Finish coats over primer. Primer is not required on items delivered shop primed.

Prime Coat: Synthetic, rust-inhibiting primer.

Moore: IronClad Retardo Rust-Inhibitive Paint # 163.  
PPG: 6-208 Red Inhibitive Metal Primer.  
S-W: Kem Kromik Metal Primer B50N2/B50W1.

First and Second Finish Coats: Gloss Alkyd Enamel.

Moore: Impervo High-Gloss Enamel # 133.  
PPG: 7-282 Seven Line Industrial Gloss Oil BASE Enamel.  
S-W: Industrial Enamel B-54 Series.

CMU – Concrete Masonry Units:

Primer: (Bare and Previously Painted Surfaces)

PPG: 6-7 Speedhide Interior Exterior Latex Masonry Block Filler.  
S-W: SW Loxon 651032724 Concrete And Masonry Primer  
Moore: Equal to Above

First and Second Finish Coats: Gloss Acrylic House Paint.

PPG: PP619 Porter Acry Shield Exterior Gloss House Paint.  
S-W: SW 650047574 Exterior Gloss Superpaint.  
Moore: Equal to Above

Existing Canopy Cladding:

Primer: (Bare and Previously Painted Surfaces)

S-W: SW 650357098 Multi-Purpose Primer

First and Second Finish Coats: Gloss Acrylic House Paint.

S-W: SW 650047574 Exterior Gloss Superpaint.

Exterior Woodwork and Siding::

Primer: (Bare and Previously Painted Surfaces)

PPG: 17-921 Seal Grip Acrylic Universal Primer.  
S-W: B51W620 PrepRite Pro block Latex Primer.

Moore: Equal to Above

First and Second Finish Coats: Gloss Acrylic House Paint.

PPG: PP619 Porter Acri Shield Exterior Gloss House Paint.

S-W: A8W151 A-100 Acrylic Gloss.

Moore: Equal to Above

Exterior Concrete Step ADA Marking:

Whether indicated or not on the drawings, paint 2” wide line on the leading edge of exterior concrete stair nosings in accordance with ADA requirement to provide visual warning of level change. Tape edges to assure clean line edges. Concrete shall cure for 60 days prior to painting. Use low gloss epoxy porch floor paint product (preferably with an abrasive texture) to paint lines. Paint color to be Safety Yellow.

INTERIOR COATING SYSTEMS:

**WHEN INSTALLING NEW PAINT OVER EXISTING PAINTED SURFACES, REVISE THIS SPECIFICATION FOR COMPATIBLE ALKYD OR LATEX PAINT AS EXISTING CONDITION REQUIRES.**

General: Provide the following paint systems for the various substrates, as indicated.

Concrete Masonry Units: (noted as **Painted** are Semi gloss Enamel). (2 coats over filler)

Semi-Gloss Finish: 2 Finish coats over filled surface.

Scrap and smooth “existing” surfaces prior to painting. (add one coat of wall primer)

Filler Coat: High-Performance Latex Block Filler. Apply Two filler coats at a rate to ensure complete coverage with pores filled.

PPG: 6-7 Latex Speedhide Exterior/Interior Masonry Block Filler.  
S-W: Heavy-Duty Block Filler B25W25 Preprime Block Filler.  
Equals by Benjamin Moore are acceptable.

Prime Coat: Tinted Enamel Paint. (tinted slightly lighter than final coat, Use special dark primer base if a dark color is used.)

PPG: 17-921 Seal Grip Acrylic Universal Primer.  
S-W: B51W620 Preprime Pro block Latex Primer.  
Equals by Benjamin Moore are acceptable.

Finish Coat: Semi-gloss Enamel (2 coats).

PPG: 6-500 Speedhide Interior Latex Enamel.  
S-W: B31W4651 Promar 400 Semi Gloss Enamel.  
Equals by Benjamin Moore are acceptable.

Gypsum Drywall Systems:

Eggshell Latex Enamel Finish: Two finished coats over 2 coats of drywall base primer. (Verify smoothness of drywall finishing prior to applying paint finishes)

**NOTE: Provide semi gloss finish in “Wet” kitchen and toilet areas.**

Primer Coat: White, interior,-latex primer. (Use dark tint base for dark colors)

PPG : 6-2 Speedhide Interior Primer Sealer.  
S-W: Pro-Mar 200 Latex Wall Primer B28W2600. Zero VOC primer.  
Equals by Benjamin Moore are acceptable.

Finish Coats: Interior, Eggshell, Latex enamel-based paint.

PPG: 6-500 Speedhide Interior Eggshell Enamel Paint.  
S-W: B31W4651 Pro Mar 400 Eggshell Enamel paint.  
Equals by Benjamin Moore are acceptable.

Ferrous Metal:

Full-Gloss Enamel Finish: 2 Finish coats over primer. Primer is not required on items delivered shop primed.

Prime Coat: Synthetic, rust-inhibiting primer.

PPG: 6-208 Speedhide Interior Rust Inhibitive Metal Primer.  
S-W: Kem Kromik Metal Red Oxide Primer B50NZ6.  
Equals by Benjamin Moore are acceptable.

Finish Coats: Exterior, semigloss, alkyd enamel.

PPG: 6-111OXJ Speedhide Interior Alkyd Gloss Enamel.  
S-W: Pro-Mar 200 Alkyd Enamel B34W2251.  
Equals by Benjamin Moore are acceptable.

Woodwork:

Semigloss Enamel Finish: 3 coats.

Undercoat: Interior latex enamel undercoat.

Primer (Bare Wood).

PPG: 17-941 NF Seal Grip Int/Ext Alkyd Universal Primer/Sealer.  
S-W: Y24W890 Fast Dry Oil Based Primer  
Equals by Benjamin Moore are acceptable.

Primer (Previously Coated Surfaces)

PPG: 6-14 Speedhide Interior Quick Dry Stain Kill Primer/Sealer.  
S-W: Pro-Mar 200 Alkyd Enamel Undercoater B49W200.  
Equals by Benjamin Moore are acceptable.

First and Second Coats: Interior, semigloss, odorless, latex enamel.

PPG: 6-500 Speedhide Interior Latex Semigloss Enamel.  
S-W: B31 W4651 Pro Mar 400 Semi-gloss Enamel.  
Equals by Benjamin Moore are acceptable.

END OF SECTION 09900

## SECTION 10000 - MISCELLANEOUS ACCESSORIES

### PART 1 - GENERAL

#### RELATED DOCUMENTS:

Drawings and general provisions of Contract, including General and Supplementary Conditions and Division-1 Specification sections, apply to work of this section.

#### DESCRIPTION OF WORK:

Provide and install the specified products as indicated on the plans and described in the specifications.

NOTE: ALL ITEMS LISTED ARE SPECIFIC MODEL NUMBERS BY SPECIFIC MANUFACTURERS; HOWEVER, EQUAL PRODUCTS BY OTHER MANUFACTURER'S OF SIMILAR PRODUCTS WILL BE ACCEPTED UPON APPROVAL (either before or after bidding) BY ARCHITECT. FINAL DECISION OF EQUALITY WILL BE BASED ON ALL QUALITIES AND QUANTITIES OF THE NAMED PRODUCT.

#### SUBMITTALS:

Product Data: Submit manufacturer's specifications and installation instructions for each of the listed products. Include any operation and maintenance instructions as applicable.

#### DELIVERY, STORAGE AND HANDLING:

Deliver materials and products in original packages either assembled or "knocked-down" for field assembly.

Store materials inside, under cover and in a manner acceptable to the manufacturer of each product.

### PART 2 - PRODUCTS

#### EXTERIOR SIGNAGE – BUILDING SIGNAGE:

Furnish and install the following cast aluminum letters for mounting on building facade. Provide a template for letter spacing/mounting requirements. Letter shall be flush mounted to wall face and mounted with integral studs cast in letter. Finish shall be warranted for a minimum of 5 years.

Letter Style: ENGRAVERS MT  
Finish/Color: “Baked Enamel Finish” with color to be selected from standard range of “White”.  
Letter Height: 14”  
Letter Thickness: minimum 1-1/4” thick  
**Text: “GRANITE QUARRY MUNICIPAL BUILDING”**

Letter Style: ENGRAVERS MT  
Finish/Color: “Baked Enamel Finish” with color to be selected from standard range of “White”.  
Letter Height: 12”  
Letter Thickness: minimum 1” thick  
**Text: “143” (911 building address)**

Letter Style: ENGRAVERS MT  
Finish/Color: “Baked Enamel Finish” with color to be selected from standard range of “White”.  
Letter Height: 6”  
Letter Thickness: minimum 3/4” thick  
**Text: “TOWN HALL”; “ADMINISTRATION”; “POLICE”**

*Verify final text with Architect before fabrication.*

**REMOVE AND SALVAGE EXISTING EXTERIOR BLDG. LETTERS:**

Carefully remove the existing building letters on the existing canopy and return them to the Owner.

**PART 3: EXECUTION:**

**INSTALLATION:**

Install units in accordance with manufacturer's instructions. Securely anchor to adjacent walls and/or floors with concealed devices as applicable for product specified.

Coordinate with other trades as necessary for proper and timely installation.

**ADJUST AND CLEAN:**

Ensure that operating parts work freely and fit neatly. Adjust hardware and moving parts as necessary.

Repair or replace damaged parts, dents, buckles, abrasions, or other defect affecting appearance or serviceability.

Clean all products prior to time of final inspection.

**END OF SECTION 10000**