



City of Greenville

POLICE FIRE-RESCUE HEADQUARTERS ROOF REPLACEMENT

**500 S. Greene St.
Greenville, NC 27834**

PROJECT MANUAL

TEG PROJECT NO. 20160182

**ISSUED FOR CONSTRUCTION
April 3, 2017**



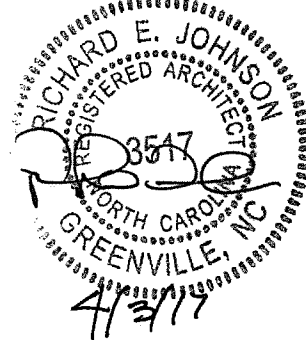
**324 Evans Street
Greenville, NC 27858
Tel (252) 758-3746
Fax (252) 830-3954
www.eastgroup.com
NC Engineering License No. C-0206
NC Architectural License No. 50213**

Company



The East Group, PA
NC Architectural License No. 50213

Architectural



Richard Johnson, AIA
NC License No. 3517

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SECTION 00100 - INVITATION TO BID

Sealed proposals will be received by The City of Greenville up until May 11, 2017 at 2:00 PM, in the conference room of The City of Greenville Public Works Facility, 1500 Beatty Street, Greenville, NC 27834 for furnishing all labor, materials and equipment entering into the construction of the **Police Fire-Rescue Headquarters Roof Replacement** in accordance with the documents prepared by The East Group, PA.

The bids will be publicly opened after 2:00 PM on the date of the bid.

The basis of the contract will be a Single Prime General Contract.

A Pre-Bid Conference will be held at April 25, 2017 at 2:00 PM, at the first floor conference room of the Police Fire-Rescue Headquarters, Greenville, NC.

A Site Visit will be mandatory. A site visit will be held after the Pre-Bid Conference with additional site visits the following week on May 2 and May 4 at 10:00 AM by appointment.

A Bid Bond in the amount of 5% of the base bid will be required with each bid.

The Owner reserves the right to reject any or all bids and waive any and all defects and informalities in the submission of any bid.

END OF SECTION 00100

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**CITY OF GREENVILLE
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Advertisement for Bids

Sealed bids will be received by The City of Greenville until May 11th at 2:00 PM, in the conference room of The City of Greenville Public Works Facility, 1500 Beatty Street, Greenville, NC. The bids will, immediately thereafter, be publicly opened and read aloud for furnishing all labor, materials and equipment entering into the construction of the

City of Greenville Police Fire-Rescue Headquarters Roof Replacement

GREENVILLE, NORTH CAROLINA

A Pre-Bid Conference will be held at April 25, 2017 at 2:00 PM, at the first floor conference room of the Police Fire-Rescue Headquarters, Greenville, NC.

A Site Visit will be mandatory. A site visit will be held after the Pre-Bid Conference with additional site visits the following week on May 2 and May 4 at 10:00 AM by appointment.

All times are Eastern Standard Time.

Lump sum proposals will be received for the following:

- Single Prime Bids will also be received for all Contract work

Complete Plans, Specifications and Contract Documents will be available free from the City of Greenville's Website, Full set of printed copies will also be available from DPI, Digital Printing and Imaging, in Greenville NC **at cost of printing**, contact

Digital Print & Imaging, Inc

115-a Red Banks Rd.
Greenville, NC 27858
252-321-3800
greenville@dpiinc.net

All questions regarding plans are to be referred to the architect of record, Richard Johnson, AIA of The East Group, via **email or fax** at richard.johnson@eastgroup.com and/or 252-830-3954 (fax).

The Owner reserves the right to reject any and/or all bids and to waive any and all defects and informalities in the submission of any bid.

Abbreviated Written Summary: Briefly and without force and effect upon the contract documents, the work of the Prime Contracts can be summarized as follows:

The project involves tear off and replacement of existing roofing with new roofing as drawn & specified.

All contractors must be properly licensed under the State Laws governing their respective trades.

All contractors are advised that the Owner has a minority and women participation policy for construction projects. Refer to the specifications for a detailed description of this policy.

The Owner reserves the right to reject any and/or all bids and to waive any and all defects and informalities in the submission of any bid.

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Each proposal shall be accompanied by a cash deposit or a certified check drawn on some bank or trust company insured by the Federal Deposit Insurance Corporation, of an amount equal to not less than 5 percent of the proposal. In lieu thereof a bidder may offer a bid bond of 5 percent of the bid executed by a surety company licensed under the Laws of North Carolina to execute such bond 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, and upon failure to forthwith make payment, the surety shall pay to the obligee an amount equal to double the amount of said bond. Said deposits shall be retained by the Owner as liquidated damages in 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.

Performance and Payment Bond will be required for one hundred percent (100%) of the contract price.

Payment will be made on the basis of ninety percent (90%) of monthly estimates and final payment made upon completion and acceptance of work.

A contractor Reference Form, listing 3 client references of similar work is required.

No bid may be withdrawn after the scheduled closing time for the receipt of bids for a period of 60 days.

The Owner encourages the participation of MBE and WBE firms. Refer to the project manual for specific requirements.

Signed: Denisha Harris,
Purchasing Manager
City of Greenville

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POLICY STATEMENT

It is the policy of the City of Greenville to provide minorities and women equal opportunity for participating in all aspects of the City's contracting and procurement programs, including but not limited to, construction projects, supplies and materials purchase, and professional and personal service contracts.

OVERVIEW

The City of Greenville Minority and Women Business Enterprise Program (M/WBE) is a voluntary goals program in construction, purchasing, and professional and personal services based on "good-faith efforts". These goals are established for a three-year period and achievement will be evaluated annually.

The goals of the City for utilization of minority and women business enterprises are:

| | |
|--|-----|
| Minority business participation in construction services. | 10% |
| Women business participation in construction services | 6% |
| Minority business participation in supplies and materials purchases. | 2% |
| Women business participation in supplies and materials purchases. | 2% |
| Minority business participation in professional and personal services. | 4% |
| Women business participation in professional and personal services. | 4% |

CITY OF GREENVILLE MBE/WBE PLAN

I. INTRODUCTION

Efforts have been made by the City's staff to increase the amount of business the City awards to minority and women owned businesses. These efforts have produced minimal results.

In 1989, the North Carolina General Assembly amended G.S. 143-128 requiring the establishment of "verifiable percentage goals for minority business participation in contracts for the erection, construction, alteration or repair of public buildings" where the cost exceeded \$100,000.

Cities and other governmental bodies were to adopt a verifiable goal for participation by minority businesses after notice and public hearing. On December 12, 1989, the City of Greenville adopted an interim Minority Business Enterprise Participation Plan with a goal of ten (10) percent participation by minority individuals and businesses until a sufficient factual data base was collected to establish verifiable goals.

The City of Greenville conducted a Utilization Study of minority businesses in the City's purchasing programs based on an appropriate pool of qualified M/WBES. The City of Greenville contracted with the North Carolina Institute of Minority Economic Development to assist the City in establishing a verifiable Minority and Women Business Enterprise Goals Plan based on the statistical evidence of the study. The City of Greenville, in setting verifiable goals for the City's M/WBE Plan, considered statistical data derived from the Utilization Study and available potential M/WBES that could perform work in the disciplines germane to the City itself. The goals of the City do not require nor provide for racially based set-asides; rather they require a good faith effort by the City and its contractors to recruit and select minorities and women businesses, consistent with North Carolina General Statutes and the Constitution of the United States as interpreted by the **Croson Decision**.

II. ADMINISTRATION

The City Manager is authorized to take all usual and legal administrative actions necessary to implement this Plan. The ultimate responsibility for the MBE/WBE Plan's administration is assigned to the City Manager. The City Manager is either to be personally responsible or to designate a specific person to coordinate and manage this Plan. The City Manager or his designee is responsible for determining whether a contractor has complied with the provisions of this Plan or has shown good-faith effort to do so. Except for those staff services specifically assigned by this Plan to other departments, the heads of departments responsible for construction, procurement of services and materials shall be responsible to the City Manager or his designee and shall cooperate with the City Manager in implementing this Plan.

The M/WBE Plan shall apply to all contracts for construction, supplies, and

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Services as specified in Sections IV through VI. The provisions of this Plan take precedence over any other department plans or procedures in conflict herewith, except specific requirements mandated by terms or conditions of agreements in force between the City and the federal government or the State of North Carolina that require different procedures than those described in this Plan. This Plan will be evaluated at the end of three years to determine its effectiveness and what adjustments are required.

III. DEFINITIONS

Affirmative Action - Specific steps to eliminate discrimination and efforts to ensure nondiscriminatory results and practices in the future, and to fully involve minority business enterprises and women business enterprises in contracts and programs.

Bidder/Participant - Any person, firm, partnership, corporation, association, or joint venture seeking to be awarded a public contract or subcontract.

Contract - A mutually binding legal relationship or any modification thereof obligating the seller to furnish equipment or service, including construction and leases, and obligating the buyer to pay for them.

Contractor - Any person, firm, partnership, corporation, association, or joint venture that has been awarded a public contract or lease, including every subcontract on such a contract.

Discrimination - To distinguish, differentiate, separate and/or segregate on the basis of age, race, religion, color, sex, national origin, handicap and/or veteran status.

Equipment - Includes materials, supplies, commodities, and apparatus.

Goal - A voluntary percentage or quantitative objective.

Joint Venture - An association of two or more businesses to carry out a single business enterprise for profit, for which purpose they combine their property, capital, efforts, skills, and knowledge.

Lessee - A business that leases, or is negotiating to lease, property from the City or equipment or services to the City of Greenville, or to the public on City property.

Minority - A person who is a citizen or lawful permanent resident of the United States and who is:

- a. Black (a person having origins in any of the black racial groups of Africa);
- b. Hispanic (a person of Mexican, Puerto Rican, Cuban, Central or South American, or other Spanish culture or origin, regardless of race);

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- c. Portuguese (a person of Portuguese, Brazilian, or other Portuguese culture origin, regardless of race);
- d. Asian (a person having origins in any of the original people of the Far East, Southeast Asia, the Indian sub-continent, or the Pacific Islands); and
- e. American Indian and Alaskan Native (a person having origins in any of the original people of North America).

MBE/WBE - Any minority or women business enterprise.

Minority or Women Business Enterprise (MBE/WBE) - A business that is at least fifty-one (51) percent owned and controlled by minority group members or women. An MBE/WBE is **bona fide** only if the minority group or female ownership interests are real and continuing and not created solely to meet the MBE/WBE requirement. In addition, the MBE/WBE must itself perform satisfactory work or services or provide supplies under the contract and not act as a mere conduit. In short, the contractual relationship must also be **bona fide**.

IV. PROCEDURES FOR CONSTRUCTION CONTRACTS

A. Purpose and Application

1. The general purpose of this Plan is to help develop and support Minority and Women Business Enterprises (MBE and WBE) by providing opportunities for participation in the performance of all construction contracts financed entirely with City funds.
2. This Plan shall apply to construction contracts when the City's estimated contract cost is \$50,000 or more, except when a contract is exempt from competitive bidding under the General Statutes of North Carolina. Contracts between \$5,000 and \$50,000 that are negotiated will also be covered.
3. Where contracts are financed in whole or in part with federal or state funds, including grants, loans, or other funding sources containing MBE and WBE Programs, the City will, where permitted by the grantor, meet the Plan requirements with the highest MBE/WBE goals. The City Manager will be responsible for monitoring the Plan to ensure the goals are met.
4. Since City construction contracts are prepared and administered by the Engineering Department and various other departments, each of these departments shall prepare such departmental procedures for bidding and outreach as are required to implement this Plan.
 - a. Within ninety (90) days of City approval of this Program, appropriate staff and equipment will be in place for full implementation.

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- b. The departmental procedures and contract provisions shall be in effect for all bid documents Issued after the date of the City's approval.

B. MBE/WBE Goals

1. To implement the purpose of this Plan, the goal shall be to award at least ten (10) percent of the total of all construction contract award amounts in each fiscal year in each department to MBE firms and at least four (6) percent to WBE firms.
2. The City Manager and/or M/WBE Plan Coordinator may determine that higher or lower goals are appropriate on a project by-project basis, where it can be shown that the type, size, or location of the project will affect the availability of MBE and WBE firms, so long as the aggregate of all contracts does not lower the annual goals.

C. Bid Documents

1. Bidders shall submit MBE/WBE information with their bids. Such information shall be subject to verification by the City prior to the awarding of the contract. The information shall include names of MBE/WBES to be used and the dollar value of each such MBE/WBE transaction.
2. Contractors, subcontractors, suppliers, or MBE/WBE members of a joint venture intended to satisfy the City's MBE/WBE goals shall be certified by the State Department of Transportation (DOT) or shall be listed on another Public Agency certified list. The City may accept any of the following as alternate sources of certified MBES and WBES:
 - a. Listing in a City or certified registry established in accordance with Section IV, 0(2) of this Plan.
 - b. A self-certification form for a MBE/WBE or a MBE/WBE member of a joint venture not already listed in the Registry or certified by the State.
 - c. Evidence of certification or the self-certification form submitted to the City at or before the bid opening.

D. City of Greenville Responsibilities

1. **MBE/WBE Registry** - The City will establish and maintain a registry of certified Minority and Women Business Enterprises. The purpose of the registry is to provide a resource for prime bidders on City's construction projects who intend to solicit bids from MBE and WBE subcontractors and suppliers to

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meet the City's MBE and WBE goals. The registry will not constitute a recommendation or endorsement of any listed firm. The registry will be developed and maintained by advertising at least annually, for letters of interest from MBE and WBE firms and community organizations wishing to be included in the registry and notified of construction contracts and sole source contracts (one source). Advertisements will be placed in at least one newspaper of general circulation and in at least one minority newspaper in the state.

2. Certification

- (a) The certification process will involve submission of a completed City certification form or inclusion on another acceptable public agency registry. All businesses must be recertified every twenty-four (24) months. The submitted form will be subject to approval by the City Manager or his designee. The City may accept proof of certification from the following:
- North Carolina Department of Transportation
 - North Carolina Department of Administration
 - Other North Carolina cities with established certification procedures.
- (b) Certification decisions made by the City can be appealed by the applicant or a third-party challenger. Protests must be delivered to the MIWBE Office in writing or forwarded to the City Manager's Office. MBE/WBE applicants for certification with the City are allowed ten (10) days after the receipt of the certification decision to protest. A third-party challenge can be submitted at any time. Written protests will be reviewed by the City Manager, who will render a final decision.

3. Certification Eligibility Standards

- (a) The eligibility of a business is determined by the ownership and control of the business.
- (b) An eligible Minority Business Enterprise owner is a citizen or lawful permanent resident of the United States, a member of a recognized ethnic or racial group, and fifty one (51) percent owner of the business.

The eligible ethnic or racial groups are:

- Black

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- . Hispanic
- . Portuguese
- . Asian/Pacific Islander
- . American Indian/Alaskan Native

(c) An eligible Women Business Enterprise owner is a citizen or lawful resident of the United States and a fifty-one (51) percent owner of the business and is female.

4. **Decertification Procedures** - A firm certified as a MBE/WBE may be decertified by the City Manager or his designee after an investigation and hearing for anyone of the following reasons:
- a. Change of Status - The City Manager or his designee may decertify a MBE/WBE if he finds that the ownership or control of the business changes so that the business no longer meets the requirements of Section IV, 0(3) (b) and (c) above.
 - b. Failure to comply with the MBE/WBE Plan - The certification of a business as a MBE/WBE may be revoked by the City Manager or his designee if he finds any of the following conditions:
 - 1. That a business has submitted inaccurate, false or incomplete information to the City;
 - 2. That in performance of a contract, a business has failed to comply with requirements of the contract with the City;
 - 3. That in performance of a contract, a business has failed to comply with MBE/WBE requirements of a contract established by a contractor with the City in response to City requirements; or
 - 4. That a business has otherwise failed to comply with the provisions of this MBE/WBE Plan.
 - c. Appeal of Decertification - A business may appeal a determination to decertify as a MBE/WBE by utilizing the procedures described in Section IV, D(2) above.
5. **Pre-bid Conference** - The City may hold a pre-bid conference on all formal bid contracts for all prospective bidders, subcontractors, and MBE/WBES for the purpose of explaining the provisions of the MBE/WBE Plan, the process for bidding, and the contract to be performed. Available data on MBE/WBES interested and/or capable of engaging in the prospective contract

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shall be made available to prospective bidders, contractors, and subcontractors.

E. Contractor Responsibilities

1. The contractor (bidder) shall make good-faith efforts to encourage participation of MBE/WBES in projects prior to submission of bids in order to be considered as a responsive bidder. A good-faith effort shall include, at a minimum, specific affirmative action steps and complete documentation thereof. The following list of factors to determine good-faith effort is not exclusive or exhaustive:
 - a. Whether the bidder attended any pre-solicitation or pre-bid meetings, if scheduled by the City;
 - b. Whether the bidder identified and selected specific items of the project for which the contract could be performed by Minority and/or Women Business Enterprises, to provide an opportunity for participation by those enterprises (including, where appropriate, breaking down contracts into economically feasible units to facilitate MBE/WBE participation);
 - c. Whether the bidder advertised, a reasonable time before the date the bids are opened, in one or more daily or minority weekly newspaper or trade association (i.e., N.C. Minority Business Association), trade journal or other media;
 - d. Whether the bidder provided mail notice of his or her interest in bidding on the contract to at least three (3) Minority or Women Business Enterprises (for each identified sub-item of the contract) licensed to provide the specific items of the project a reasonable time prior to the opening of bids;
 - e. Whether the bidder provided interested Minority and Women Business Enterprises with information about the plans, specifications, and requirements for the selected subcontracting or material supply work;
 - f. Whether the bidder contacted the City's MIWBE Office for assistance in identifying minority and women businesses certified with the City and three (3) approved public agencies as referenced in Section IV, D(2)a;
 - g. Whether the bidder negotiated in good-faith with Minority or Women Business Enterprises and did not unjustifiably reject as unsatisfactory bids prepared by Minority or

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Women Business Enterprises, as defined by the City;

- h. Whether the bidder, where applicable, advised and made efforts to assist interested Minority and Women Business Enterprises in obtaining bonds, lines of credit, or insurance required by the City or contractor;
- i. Whether the bidder's efforts to obtain Minority and Women Business Enterprise participation could reasonably be expected by the City to produce a level of participation sufficient to meet the goals of the City.

Bidders are cautioned that even though their submittal indicates they will meet the MBE/WBE goals, they should document their good-faith efforts and be prepared to submit this information to protect their eligibility for award of the contract in the event the City questions whether the good-faith requirement has been met.

- 2. Performance of MBE and WBE Subcontractors and Suppliers The MBE/WBES listed by the contractor on the Schedule of MBE/WBE Participation, which are determined by the City to be certified, shall perform the work and supply the materials for which they are listed unless the contractor has received prior written authorization from the City to perform the work with other forces or to obtain the materials from other sources.

The contractor shall enter into and supply copies of fully executed subcontracts with each MBE/WBE listed on the "Bidder MBE/WBE Information" form to the City's MIWBE Plan Coordinator after award of the contract and prior to the issuance of a Notice to Proceed. Any amendments to the subcontracts shall be submitted to the MIWBE Office within five (5) days of execution.

Authorization to utilize other forces or sources of materials may be requested for the following reasons:

- a. The listed MBE/WBE, after having had a reasonable opportunity to do so, fails or refuses to execute a written contract, when such written contract, based upon the general terms, conditions, plans and specifications for the project, or on the terms of such subcontractor's or supplier's written bid, is presented by the contractor.
- b. The listed MBE/WBE becomes bankrupt or insolvent.
- c. The listed MBE/WBE fails or refuses to perform his/her subcontract or furnish the listed materials.

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- d. The work performed by the listed subcontractor is unsatisfactory according to industry standards and is not in accordance with the plans and specifications; or the subcontractor is substantially delaying or disrupting the progress of the work.

F. Awarding of Contracts

1. If a construction contract is to be awarded, it shall be awarded in accordance with North Carolina General Statutes to the lowest responsible bidder who complies with all of the prescribed requirements and either:
 - a. Made a good-faith effort to comply with these goals and requirements before the time bids are opened as described above. Where a good-faith effort is claimed by the apparent lowest responsible bidder, the bidder shall be required to submit documentation WITHIN TWENTY-FOUR (24) HOURS OF THE CITY'S NOTIFICATION, which in most instances will occur the day of bid opening to show that the criteria for good-faith efforts have been met, or
 - b. Once a firm is determined to be an eligible MBE/WBE, and before the contract is awarded, the total dollar value to be paid to the MBE/WBE shall be evaluated by the MIWBE Office to ensure that it is in accordance with the bidder's proposal.

If the evaluation shows that the bidder has misrepresented MBE/WBE participation or has not made a good-faith effort to meet the contract goals for MBE and WBE participation, the bidder may be disqualified.

G. Counting MBE/WBE Participation Toward Meeting the Goals –

The degree of participation by MBE/WBE contractors, subcontractors, suppliers, or joint-venture partners in contract awards shall be counted in the following manner:

1. Once a firm is determined to be an eligible MBE/WBE contractor in accordance with this Plan, the total dollar value of the contract awarded to the MBE/WBE is counted as participation.
2. The goals can be met by any certified MBE/WBE contractor, subcontractor, supplier, trucker, or joint venture partner as listed in the City and agency directory. All MBE/WBES used to meet the goal must be certified by the City or an approved agency at the time of bid opening. Only certified firms listed in the directory can be

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counted toward the goal. The standard for certification is set forth in this Plan.

3. The total dollar value of a contract with a business owned and controlled by a minority woman is counted toward either the minority goal or the goal for women, but not toward both. The contractor or City employing the firm may choose the goal to which the value is applied.
4. In the case of a joint venture, the joint venture recipient or contractor may count toward its MBE/WBE goals a portion of the total dollar value of the contract that the MBE/WBE partner's participation in the joint venture represents. Credit will be given equal to the minority partner's percentage of ownership in the joint venture. A MBE/WBE joint-venture partner must be responsible for a clearly defined portion of the work to be performed in addition to satisfying requirements for ownership and control.
5. A recipient or contractor may count toward its MBE/WBE goals only expenditures to MBE/WBE whose ownership interests are real and continuing and not created solely to meet the City's goals for participation, and that perform a commercially useful function in the work of a contract. A MBE/WBE is considered to perform a commercially useful function when it is responsible for execution of a distinct element of the work of a contract and carries out its responsibilities by actually performing, managing, and supervising the work involved. To determine whether a MBE/WBE is performing a commercially useful function, the M/WBE Office shall evaluate the amount of work subcontracted, industry practices, and other relevant factors. Consistent with normal industry practices, an MBE/WBE may enter into subcontracts. If a MBE/WBE contractor subcontracts a significantly greater portion of the work of the contract than would be expected on the basis of normal industry practices, the MBE/WBE shall be presumed not to be performing a commercially useful function. Evidence to rebut this presumption may be presented to the City. The MBE/WBE may present evidence to rebut this presumption. The M/WBE Office's decision on the rebuttal of this presumption is subject to review by the City Manager or his designated representative. Once a firm is determined to be an eligible MBE/WBE in accordance with this section, the total dollar value of the contract awarded to MBE/WBE is counted toward the applicable MBE/WBE goals, except as provided in the provisions of this section.

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6. A contractor may count toward its MBE/WBE goals expenditures for materials and supplies obtained from MBE/WBE suppliers and manufacturers, provided that the MBE/WBE assumes the actual and contractual responsibility for the provision of the materials and supplies.

H. Documentation of Attainment of MBE/WBE Participation Requirements - In order that the City Manager may make a recommendation to the City as to the responsiveness of bidders, bidders shall be required to submit the following information on each MIWBE-related subcontract:

1. A description of the subcontract and purchase(s) of significant equipment and supplies to be used to perform the subcontract or prime contract, including the name and address of each MBE/WBE firm selected, and the name and telephone number of a contact person;
2. The dollar amount of participation of each MBE/WBE;
3. A statement of intent from the MBE/WBE subcontractor or material supplier as
 - a. Identified in Section IV, H(1) above that they intend to contract or supply the materials, or
 - b. Sworn statements, with appropriate documentation, showing that the contractor made a good-faith effort to comply with the MBE/WBE Plan in accordance with Section IV, E of this Plan.

VII. GRIEVANCE PROCEDURE

Any participant feeling himself/herself aggrieved by implementation of the MBE/WBE Program may present such grievance to the City. The grievance (except for certification as a MBE/WBE) shall be first discussed with the responsible operating department. If the grievance is not resolved, a written description of the grievance with appropriate supporting evidence shall be presented to the M/WBE Program Coordinator. The M/WBE Program Coordinator will review the grievance and supporting evidence and make a written response to the participant within ten (10) working days. In the event the participant is not satisfied, said participant may appeal the grievance by filing a written description thereof and supporting evidence with the City Manager. The City Manager shall hear the grievance within ten (10) working days and shall make a decision thereon, which shall be final.

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SECTION 00215 - DOCUMENT CLARIFICATION REQUEST (DCR)

PART 1 - GENERAL

1.1 DESCRIPTION OF WORK

- A. Work Specified This Section:
 - 1. This Section specifies administrative and procedural requirements for disposition of Document Clarification Request (DCRs) during the Bidding Phase.

1.2 SUBMITTALS

- A. Submit each request (DCR) on the form included this in section.
- B. Provide only one request on each form.
- C. Email DCR form to Dennis Peterson at dennis.peterson@eastgroup.com.

PART 2 - PRODUCTS (NOT APPLICABLE)

PART 3 - EXECUTION

3.1 CONDITIONS:

- A. Submit requests to the Architect as soon as possible.
- B. DCRs will be received up to seven (7) calendar days prior to the Bid date. DCRs received after that date will not be reviewed.

3.2 ARCHITECT'S ACTION:

- A. The Architect will review the information requested.
 - 1. If, after researching the issue, if the information is found within the Contract Documents, then no formal response will be forth coming.
- B. The Architect's response will be in the space provided on the DCR form included this in section.

**CITY OF GREENVILLE
POLICE FIRE-RESCUE HEADQUARTERS
ROOF REPLACEMENT**

00215 – DOCUMENT CLARIFICATION REQUEST (DCR)

| | | |
|---|---------------|--------------|
| DOCUMENT CLARIFICATION REQUEST | | Date: |
| Attention: Richard Johnson | Submitted By: | |
| The East Group, PA 324 Evans Street Greenville NC 27835 | | |
| Subject: | | |
| Specification Number: | | |
| Drawing Sheet Number: | | |
| INFORMATION REQUESTED | | |
| | | |
| Signed: _____ | | |
| RESPONSE | | |
| <input type="checkbox"/> See Drawings/Specifications _____ | | |
| <input type="checkbox"/> See Addenda to be issued | | |
| <input type="checkbox"/> Other | | |

Answered By: _____

Date: _____

END OF DOCUMENT 00215

**CITY OF GREENVILLE
POLICE FIRE-RESCUE HEADQUARTERS
ROOF REPLACEMENT**

SECTION 00231 - PRODUCT SUBSTITUTIONS DURING BID

PART 1 - GENERAL

1.1 DESCRIPTION OF WORK

A. Work Specified This Section:

1. This Section specifies administrative and procedural requirements for submitting requests for substitutions prior to Bid.

1.2 SUBMITTALS

A. Substitution Request Submittal:

1. Identify the product, or the fabrication or installation method to be replaced in each request. Include related Specification Section and Drawing numbers.
2. Provide complete documentation showing compliance with the requirements for substitutions, and the following information:
 - a) Original copies of Product Data, including Drawings and descriptions of products, fabrication and installation procedures.
 - b) Samples.
 - c) A detailed point by point comparison of the proposed substitution and the specified product detailing the significant qualities of both products. Significant qualities may include elements such as size, weight, durability, performance and visual effect.
 - d) Ensure the product fits in the designated space.
 - e) The manufacturer or fabricator shall certify or guarantee the specified product as required by the Documents.
 - f) The substitution is in compliance with applicable code requirements.
 - g) Coordination information:
 - 1) Including a list of changes or modifications required to other parts of the Work and to construction performed by the Owner and separate Contractors, which will become necessary to accommodate the proposed substitution.
 - h) Certification by the Bidder that the substitution proposed is equal-to or better in every significant respect to that required by the Documents, and that it will perform adequately in the application indicated.

B. Architect's Action:

1. After receipt of the request for substitution, the Architect may request additional information or documentation for evaluation.
2. If a proposed substitute is accepted, it will be indicated in an upcoming Addendum.
3. Architect's decision is final and such reasons, if not approved, will not be furnished.

PART 2 - PRODUCTS (Not Applicable).

PART 3 - EXECUTION (Not Applicable).

END OF SECTION 00231

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**CITY OF GREENVILLE
POLICE FIRE-RESCUE HEADQUARTERS
ROOF REPLACEMENT**

BID FORM

TO: **City of Greenville**
herein called "OWNER"

1. Pursuant to and in compliance with the invitation to bid and the proposed Contract Documents relating to construction of:

**City of Greenville
Police Fire-Rescue Headquarters
Roof Replacement**

the undersigned, having become thoroughly familiar with the terms and conditions of the proposed Contract Documents and with local conditions affecting the performance and costs of the Work at the place where the Work is to be completed, and having fully inspected the site in all particulars, hereby proposes and agrees to fully perform the Work within the time allowed and in strict accordance with proposed Contract Documents, including furnishing any and all labor and materials, and to do all of the work required to construct and complete said Work in accordance with the Contract Documents, for the following sum of money:

Single Prime Bid:

BIDDER'S COMPANY NAME: _____

BASE BID _____ (\$ _____)

ADD ALTERNATE -1

Provide new coping throughout (\$ _____)

ADD ALTERNATE -2

Provide 60 mil fully adhered black EPDM membrane from Firestone or Carlisle in lieu of the 60 mil fully adhered TPO membrane in the base bid.

_____ (\$ _____)

**CITY OF GREENVILLE
POLICE FIRE-RESCUE HEADQUARTERS
ROOF REPLACEMENT**

| LIST OF SUBCONTRACORS | | | | |
|-----------------------|-------------------------|--|-----|--|
| | NAME OF COMPANY/ADDRESS | | BID | |
| ROOFING | | | | |
| | | | | |
| | | | | |

ATTACH CHECK, CASH OR BID BOND TO THIS PROPOSAL.

2. I understand that the Owner reserves the right to reject this bid, but that this bid shall remain open and not be withdrawn for a period of 60 days from the date prescribed for its opening.
3. If written notice of the acceptance of this bid is mailed or delivered to the undersigned within 45 days after the date set for the opening of this bid, or at any other time thereafter before it is withdrawn, the undersigned will execute and deliver the Contract Documents to Owner in accordance with this bid accepted, and will also furnish and deliver proof of insurance coverage, all within ten days after deposit in the mails of the notification of acceptance of this bid.
4. Notice of acceptance, or request for additional information, may be addressed to the undersigned at the address set forth below.
5. The bidder acknowledges receipt of the following Addenda and has incorporated bid revisions in this bid proposal.

| Addendum No. | Dated | Received | Addendum No. | Dated | Received |
|--------------|-------|----------|--------------|-------|----------|
| _____ | _____ | _____ | _____ | _____ | _____ |
| _____ | _____ | _____ | _____ | _____ | _____ |
| _____ | _____ | _____ | _____ | _____ | _____ |

6. Construction Time: The undersigned agrees if he is the successful bidder to commence work under this contract on a date to be specified by the Owner and to fully complete all work on the Project within the following period set forth below.

120 Consecutive Calendar Days

7. The bidder further agrees that the Owner has the right to withhold from compensation otherwise to be paid the amount of three hundred dollars (**\$300.00**) per day that the work is not completed after the completion date defined above as liquidated damages reasonably determined to be incurred by the Owner as a result of such delay.

**CITY OF GREENVILLE
POLICE FIRE-RESCUE HEADQUARTERS
ROOF REPLACEMENT**

8. The names of all persons interested in the foregoing bid as principals are:

IMPORTANT NOTICE: If bidder or other interested persons is a corporation, give legal name of corporation, state in where incorporated, and names of president and secretary; if a partnership, give names of firm and names of all individual co-partners composing the firm; if bidder or other interested person is an individual, give first and last names in full.)

Licensed in accordance with an act for the registration of contractors, and with N.C. license number _____.

Sales and use tax registration number _____.

SIGN HERE:

Signature of Bidder

NOTE: If bidder is a corporation, set forth the legal name of the corporation together with the signature of the officer or officers authorized to sign contracts on behalf of the corporation. If bidder is a partnership, set forth the name of the firm together with the signature of the partner or partners authorized to sign contracts on behalf of the partnership.

Business address: _____

(Corporate Seal)

Telephone number: _____ Date of proposal: _____

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**CITY OF GREENVILLE
POLICE FIRE-RESCUE HEADQUARTERS
ROOF REPLACEMENT**

REFERENCE INFORMATION

All bidders must provide a list of three (3) client references of similar work. The reference information must include the company's name, a contact person's name with his or her title and their telephone number. Contractor must provide the information below with their bid sheet.

1. COMPANY NAME: _____

CONTACT PERSON: _____

PHONE NUMBER: _____ MOBILE PHONE NO. _____

EMAIL: _____ BUSINESS FAX NO. _____

2. COMPANY NAME: _____

CONTACT PERSON: _____

PHONE NUMBER: _____ MOBILE PHONE NO. _____

EMAIL: _____ BUSINESS FAX NO. _____

3. COMPANY NAME: _____

CONTACT PERSON: _____

PHONE NUMBER: _____ MOBILE PHONE NO. _____

EMAIL: _____ BUSINESS FAX NO. _____

**CITY OF GREENVILLE
POLICE FIRE-RESCUE HEADQUARTERS
ROOF REPLACEMENT**

CONTRACTOR INFORMATION

Contractor must provide the information below with the bid sheet.

PROSPECTIVE CONTRACTOR DATA FORM

COMPANY NAME: _____

ADDRESS: _____

PHONE NUMBER: _____ MOBILE PHONE NO. _____

EMAIL: _____ BUSINESS FAX NO. _____

TAX ID#: _____

Corporation Or Partnership: _____

Number of Years in Business: _____

Number of Years in Greenville Area: _____

Number of Permanent Employees: _____

Number of Part-time Employees: _____

**City of Greenville/Greenville Utilities Commission
Minority and Women Business Enterprise (MWBE) Program**

**City of Greenville
Construction Guidelines and Affidavits
\$100,000 and above**

These instructions shall be included with each bid solicitation.

City of Greenville/Greenville Utilities Commission Minority and Women Business Enterprise Program

\$100,000 and Construction Guidelines for MWBE Participants

Policy Statement

It is the policy of the City of Greenville and Greenville Utilities Commission to provide minorities and women equal opportunity for participating in all aspects of the City’s and Utilities’ contracting and procurement programs, including but not limited to, construction projects, supplies and materials purchases, and professional and personal service contracts.

Goals and Good Faith Efforts

Bidders responding to this solicitation shall comply with the MWBE program by making Good Faith Efforts to achieve the following aspiration goals for participation.

| | CITY | |
|--|------|-----|
| | MBE | WBE |
| Construction This goal includes Construction Manager at Risk. | 10% | 6% |

Bidders shall submit MWBE information with their bids on the forms provided. This information will be subject to verification by the City prior to contract award. **As of July 1, 2009, contractors, subcontractors, suppliers, service providers, or MWBE members of joint ventures intended to satisfy City MWBE goals shall be certified by the NC Office of Historically Underutilized Businesses (NC HUB) only.** Firms qualifying as “WBE” for City’s goals must be designated as a “women-owned business” by the HUB Office. Firms qualifying as “MBE” for the City’s goals must be certified in one of the other categories (i.e.: Black, Hispanic, Asian American, American Indian, Disabled, or Socially and Economically Disadvantaged). Those firms who are certified as both a “WBE” and “MBE” may only satisfy the “MBE” requirement. **Each goal must be met separately. Exceeding one goal does not satisfy requirements for the other.** A complete database of NC HUB certified firms may be found at <http://www.doa.nc.gov/hub/>. An internal database of firms who have expressed interest to do business with the City and GUC is available at www.greenvillenc.gov. However, the HUB status of these firms must be verified by the HUB database. The City shall accept NCDOT certified firms on federally funded projects only. Please note: A contractor may utilize any firm desired. However, for participation purposes, all MWBE vendors who wish to do business as a minority or female must be certified by NC HUB.

The Bidder shall make good faith efforts to encourage participation of MWBEs prior to submission of bids in order to be considered as a responsive bidder. Bidders are cautioned that even though their submittal indicates they will meet the MWBE goal, they should document their good faith efforts and be prepared to submit this information, if requested.

The MWBE’s listed by the Contractor on the **Identification of Minority/Women Business Participation** which are determined by the City to be certified shall perform the work and supply the materials for which they are listed unless the Contractors receive prior authorization from the City to perform the work with other forces or to obtain materials from other sources. If a contractor is proposing to perform all elements of the work with his own forces, he must be prepared to document evidence satisfactory to the owner of similar government contracts where he has self-performed.

Attach to Bid Attach to Bid Attach to Bid Attach to Bid Attach to Bid Attach to Bid Attach to Bid Attach to Bid
The Contractor shall enter into and supply copies of fully executed subcontracts with each MWBE or supply signed Letter(s) of Intent to the Project Manager after award of contract and prior to Notice to Proceed. Any amendments to subcontracts shall be submitted to the Project Manager prior to execution.

Instructions

The Bidder shall provide with the bid the following documentation:

- Identification of Minority/Women Business Participation
(if participation is zero, please mark zero—Blank forms will be considered nonresponsive)
- Affidavit A (if subcontracting)

OR

- Identification of Minority/Women Business Participation
(if participation is zero, please mark zero—Blank forms will be considered nonresponsive)
- Affidavit B (if self-performing; must attest that bidder does not customarily subcontract work on this type of project—includes supplies and materials)

Within 72 hours or 3 business days after notification of being the apparent low bidder who is subcontracting anything must provide the following information:

- Affidavit C (if aspirational goals are met or are exceeded)

OR

- Affidavit D (if aspirational goals are not met)

After award of contract and prior to issuance of notice to proceed:

- Letter(s) of Intent or Executed Contracts

****With each pay request, the prime contractors will submit the Proof of Payment Certification, listing payments made to MWBE subcontractors.**

*****If a change is needed in MWBE Participation, submit a Request to Change MWBE Participation Form. Good Faith Efforts to substitute with another MWBE contractor must be demonstrated.**

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 City for performance of contracts. 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 City 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 City whether to terminate the contract for breach or not. In determining whether a contractor has made Good Faith Efforts, the CITY will evaluate all efforts made by the Contractor and will determine compliance in regard to quantity, intensity, and results of these efforts.

MBForms 2002-
Revised July 2010
Updated 2015

City of Greenville 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.

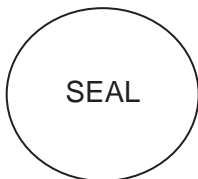
The undersigned, if apparent low bidder, will enter into a formal agreement with the firms listed in the Identification of Minority/Women Business Participation schedule conditional upon scope of contract to be executed with the Owner. Substitution of contractors must be in accordance with GS143-128.2(d) 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/women 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 _____

City of Greenville --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

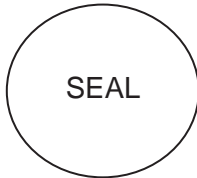
The Bidder agrees to provide any additional information or documentation requested by the owner in support of the above statement.

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 _____

City of Greenville - AFFIDAVIT C - Portion of the Work to be Performed by MWBE 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 MWBE businesses as defined in GS143-128.2(g) and the COG/CITY MWBE Plan sec. III is equal to or greater than 16% 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 ID# _____ (Project Name) Amount of Bid \$ _____

I will expend a minimum of _____% of the total dollar amount of the contract with minority business enterprises and a minimum of _____% of the total dollar amount of the contract with women business enterprises. Minority/women 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 | *MWBE Category | Work description | Dollar Value |
|-----------------------|----------------|------------------|--------------|
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |

*Minority categories: Black, African American (B), Hispanic or Latino (L), Asian American (A) American Indian (I), Female (F) Socially and Economically Disadvantaged (S) Disabled (D)

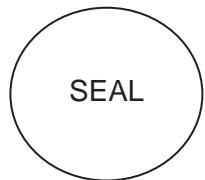
Pursuant to GS143-128.2(d), the undersigned will enter into a formal agreement with MWBE Firms for work listed in this schedule conditional upon execution of a contract with the Owner. Failure to fulfill this commitment may constitute a breach of the contract.

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 _____

City of Greenville **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 16% participation by minority/women 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 ID# _____ (Project Name) _____
Amount of Bid \$ _____

I will expend a minimum of _____% of the total dollar amount of the contract with minority business enterprises and a minimum of _____% of the total dollar amount of the contract with women business enterprises. Minority/women 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 | *MWBE Category | Work description | Dollar Value |
|-----------------------|----------------|------------------|--------------|
| | | | |
| | | | |
| | | | |
| | | | |

*Minority categories: Black, African American (**B**), Hispanic or Latino (**L**), Asian American (**A**) American Indian (**I**), Female (**F**) Socially and Economically Disadvantaged (**S**) Disabled (**D**)

Examples of documentation 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:

- A. 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.
- B. Copies of quotes or responses received from each firm responding to the solicitation.
- C. A telephone log of follow-up calls to each firm sent a solicitation.
- D. 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.
 - E. Documentation of any contacts or correspondence to minority business, community, or contractor organizations in an attempt to meet the goal.
- F. Copy of pre-bid roster.
- G. Letter documenting efforts to provide assistance in obtaining required bonding or insurance for minority business.
- H. Letter detailing reasons for rejection of minority business due to lack of qualification.
- I. 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

Do not submit with the bid Do not submit with the bid Do not submit with the bid Do not submit with the bid

next lowest responsible and responsive bidder.

Pursuant to GS143-128.2(d), the undersigned will enter into a formal agreement with MWBE 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 _____

LETTER OF INTENT MWBE Subcontractor Performance

Please submit this form or executed subcontracts with MWBE firms after award of contract and prior to issuance of notice to proceed.

PROJECT: _____
(Project Name)

TO: _____
(Name of Prime Bidder/Architect)

The undersigned intends to perform work in connection with the above project as a:

____ Minority Business Enterprise _____ Women Business Enterprise

The MWBE status of the undersigned is certified the NC Office of Historically Underutilized Businesses (required). ___ Yes ___ No

The undersigned is prepared to perform the following described work or provide materials or services in connection with the above project at the following dollar amount:

| Work/Materials/Service Provided | Dollar Amount of Contract | Projected Start Date | Projected End Date |
|---------------------------------|---------------------------|----------------------|--------------------|
| | | | |
| | | | |

(Date)

(Address)

(Name & Phone No. of MWBE Firm)

(Name & Title of Authorized Representative of MWBE)

(Signature of Authorized Representative of MWBE)

REQUEST TO CHANGE MWBE PARTICIPATION

(Submit changes only if notified as apparent lowest bidder, continuing through project completion)

Project: _____

Bidder or Prime Contractor: _____

Name & Title of Authorized Representative: _____

Address: _____ **Phone #:** _____

_____ **Email Address:** _____

Total Contract Amount (including approved change orders or amendments): \$ _____

Name of subcontractor: _____

Good or service provided: _____

Proposed Action:

Replace subcontractor

Perform work with own forces

For the above actions, you must provide one of the following reasons (Please check applicable reason):

The listed MBE/WBE, after having had a reasonable opportunity to do so, fails or refuses to execute a written contract.

The listed MBE/WBE is bankrupt or insolvent.

The listed MBE/WBE fails or refuses to perform his/her subcontract or furnish the listed materials.

The work performed by the listed subcontractor is unsatisfactory according to industry standards and is not in accordance with the plans and specifications; or the subcontractor is substantially delaying or disrupting the progress of the work.

If replacing subcontractor:

Name of replacement subcontractor: _____

The MWBE status of the contractor is certified by the NC Office of Historically Underutilized Businesses (required). Yes No

Dollar amount of original contract \$ _____

Dollar amount of amended contract \$ _____

Other Proposed Action:

Increase total dollar amount of work Add additional subcontractor
 Decrease total dollar amount of work Other

Please describe reason for requested action: _____

If adding additional subcontractor:*

The MWBE status of the contractor is certified by the NC Office of Historically Underutilized Businesses (required). Yes No

**Please attach Letter of Intent or executed contract document*

Dollar amount of original contract \$ _____

Dollar amount of amended contract \$ _____

Interoffice Use Only:

Approval Y N

Date _____

Signature _____

Do not submit with the bid Do not submit with the bid Do not submit with the bid Do not submit with the bid

Pay Application No. _____
Purchase Order No. _____

Proof of Payment Certification MWBE Contractors, Suppliers, Service Providers

Project Name: _____

Prime Contractor: _____

Current Contract Amount (including change orders): \$ _____

Requested Payment Amount for this Period: \$ _____

Is this the final payment? ___Yes ___No

| Firm Name | MWBE Category* | Total Amount Paid from this Pay Request | Total Contract Amount (including changes) | Total Amount Remaining |
|-----------|----------------|---|---|------------------------|
| | | | | |
| | | | | |
| | | | | |
| | | | | |

*Minority categories: Black, African American (B), Hispanic or Latino (L), Asian American (A) American Indian (I), Female (F) Socially and Economically Disadvantaged (S) Disabled (D)

Date: _____

Certified By: _____

Name

Title

Signature

**CITY OF GREENVILLE
POLICE FIRE-RESCUE HEADQUARTERS
ROOF REPLACEMENT**

STATE OF NORTH CAROLINA

AFFIDAVIT

CITY OF GREENVILLE

I, _____ (the individual attesting below), being duly authorized by and on behalf of _____ (the entity bidding on 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 _____, 2013.

Signature of Affiant
Print or Type Name: _____

State of North Carolina City of Greenville

Signed and sworn to (or affirmed) before me, this the _____
day of _____, 2017.

My Commission Expires:

Notary Public

||| (Affix Official/Notarial Seal) |||

**IRAN DIVESTMENT ACT CERTIFICATION REQUIRED BY N.C.G.S.
143C-6A-5(a)**

Name of Contractor, Vendor or Bidder: _____

As of the date listed below, the contractor, vendor or bidder listed above, and all subcontractors utilized by the contractor, vendor or bidder listed above, is not listed on the Final Divestment List created by the State Treasurer pursuant to N.C.G.S. 143-6A-4.

The undersigned hereby certifies that he or she is authorized by the contractor, vendor or bidder listed above to make the foregoing statement.

Signature

Date

Printed Name

Title

Notes to persons signing this form:

N.C.G.S. 143C-6A-5(a) requires this certification for bids or contracts with the State of North Carolina, a North Carolina local government, or any other political subdivision of the State of North Carolina. The certification is required at the following times:

- When a bid is submitted
- When a contract is entered into (if the certification was not already made when the vendor made its bid)
- When a contract is renewed or assigned

N.C.G.S. 143C-6A-5(b) requires that contractors with the State, a North Carolina local government, or any other political subdivision of the State of North Carolina must not utilize any subcontractor found on the State Treasurer's Final Divestment List. The State Treasurer's Final Divestment List can be found on the State Treasurer's website at the address www.nctreasurer.com/Iran and will be updated every 180 days.

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**A.I.A. DOCUMENT A310
BID BOND**

The above document is hereby made a part of these contract documents. Copies of this standard document are available from:

1. The American Institute of Architects
1735 New York Ave., N.W.
Washington, D.C. 20006
2. AIA North Carolina
14 East Peace St.
Raleigh, NC 27604
3. The East Group Architecture, P.A.
324 Evans St.
Greenville, NC 27858

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**DOCUMENT A312
PERFORMANCE BOND
LABOR AND MATERIAL PAYMENT BOND**

The above document is hereby made a part of these contract documents. Copies of this standard document are available from:

1. The American Institute of Architects
1735 New York Ave., N.W.
Washington, D.C. 20006
2. AIA North Carolina
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3. The East Group Architecture, P.A.
324 Evans St.
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**A.I.A. DOCUMENT A701
INSTRUCTIONS TO BIDDERS
1997 EDITION**

The above document is hereby made a part of these contract documents. Copies of this standard document are available from:

1. The American Institute of Architects
1735 New York Ave., N.W.
Washington, D.C. 20006
2. AIA North Carolina
14 East Peace St.
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324 Evans St.
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**A.I.A. DOCUMENT A101
STANDARD FORM OF AGREEMENT BETWEEN OWNER AND CONTRACTOR
1997 EDITION**

The above document is hereby made a part of these contract documents. Copies of this standard document are available from:

1. The American Institute of Architects
1735 New York Ave., N.W.
Washington, D.C. 20006
2. AIA North Carolina
14 East Peace St.
Raleigh, NC 27604
3. The East Group Architecture, P.A.
324 Evans St.
Greenville, NC 27858

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**A.I.A. DOCUMENT A201
GENERAL CONDITIONS OF THE CONTRACT FOR CONSTRUCTION
1997 EDITION**

The above document is hereby made a part of these contract documents. Copies of this standard document are available from:

1. The American Institute of Architects
1735 New York Ave., N.W.
Washington, D.C. 20006
2. AIA North Carolina
14 East Peace St.
Raleigh, NC 27604
3. The East Group Architecture, P.A.
324 Evans St.
Greenville, NC 27858

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**Exhibit "A"
SUPPLEMENTARY CONDITIONS
TO GENERAL CONDITIONS OF THE CONTRACT FOR CONSTRUCTION AIA DOCUMENT
A201 – 1997 EDITION**

The following supplements modify, change, delete from or add to the "General Conditions of the Contract Construction", AIA Document A201, 1997 Edition. Where any Article of the General Conditions is modified or any Paragraph, Subparagraph or Clause thereof is modified or deleted by these supplements, the unaltered provisions of that Article, Paragraph, Subparagraph or Clause shall remain in effect.

ARTICLE 3 CONTRACTOR

3.5 WARRANTY

3.5.2 Add the following Subparagraph: "The Contractor will assign to the Owner at the time of final completion of the Work, any and all manufacturer's warranties relating to materials and labor used in the Work and further agrees to perform the Work in such manner so as to preserve any and all such manufacturer's warranties."

3.6.1 Add the following at the end of the Subparagraph: "North Carolina and county sales taxes are included within the Contract Sum and are not in addition to the Contract Sum. The Contractor shall make a monthly accounting of the taxes paid so the Owner may file for reimbursement."

3.18 INDEMNIFICATION

3.18.1 In line 8 after the words "(other than the Work itself)" delete "but only to the extent caused by the negligent acts or omissions" and substitute "caused by acts or omissions of".

ARTICLE 4 ADMINISTRATION OF THE CONTRACT

4.3 CLAIMS AND DISPUTES

4.3.2 Add at the end of the Subparagraph: "Failure of the Contractor to give timely notice of a claim shall constitute waiver of the claim."

4.3.4 In Line 19 delete: ",subject to further proceedings pursuant to Paragraph 4.4."

4.3.7.2 Add at the end of the Clause: "Claims for extension of the Contract Time, described in Subparagraph 4.3.7.1 for "Bad Weather" shall be submitted by the Contractor for consideration by the Architect when the weather has an adverse effect on the scheduled construction only under the following conditions:

1. If the number of days during which there was in excess of .02 inches of rain per day, exceeds by 105% the average number of days during which there was in excess of .02 inches of rain per day for that same month for the immediately preceding five (5) years.

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2. If the number of days during which the temperature did not exceed 32.0° F in the period from 7:00 a.m. to 5:00 p.m., exceeds by 105% the average number of days during which the temperature did not exceed 32.0° F in the period from 7:00 a.m. to 5:00 p.m. for that same month for the immediately preceding five (5) years.

The Architect will not consider any claims for extension of time due to “Bad Weather”, except as outlined in this section.”

4.4 RESOLUTION OF CLAIMS AND DISPUTES

4.4.1 Delete 1st and 2nd sentences and substitute: “Claims shall be submitted to the Architect for decision. Notwithstanding any other provision of the Contract, the Architect will render to the parties the Architect's written decision relative to the claim, including any change in the Contract Sum or Contract Time or both, within 30 days after the claim is made, unless the Architect is granted an extension of time to render a decision by mutual agreement of the parties.”

4.4.5 Delete the Subparagraph as written and substitute: “The Architect will approve or reject Claims by written decision. The decision shall state the reasons for approval or rejection and shall notify the parties of any change in the Contract Sum or Contract Time or both. The decision of the Architect shall be final and binding on the parties but subject to voluntary arbitration or litigation.”

4.4.6 Delete this Subparagraph in its entirety.

4.4.8 Delete: “,by mediation or by arbitration.”

4.5 MEDIATION

Delete this Paragraph in its entirety.

4.6 ARBITRATION

Delete this Paragraph in its entirety.

ARTICLE 5 SUBCONTRACTORS

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

5.2.3 Delete the 2nd sentence and substitute: “If the proposed but rejected Subcontractor was reasonably capable of performing the Work, the Contract Sum shall be increased by the lesser of the following: (1) the difference between the subcontract amount proposed by the person or entity recommended by the Contractor and the subcontract amount proposed by the person or entity accepted or designated by the Owner and the Architect; or (2) the amount by which the subcontract amount proposed by the person or entity accepted or designated by the Owner and the Architect exceeds the amount set forth in the Schedule of Values, if any, which is applicable to the Work

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covered by such subcontract.”

5.3 SUBCONTRACTUAL RELATIONS

5.3.1 Add at the end of the Subparagraph: “The agreement between the Contractor and Subcontractor shall include but are not limited to the requirements of liability insurance and workers’ compensation insurance either as part of the Contractor’s policies or by separate policy provided by the Subcontractor, an indemnification agreement for injuries or damages caused by the acts or omissions of the Subcontractor, and that no privity exists between the Subcontractor and the Owner.”

ARTICLE 7 CHANGES IN THE WORK

7.1 GENERAL

7.1.3 At the end of the Subparagraph: “Except as permitted in Paragraph 7.3 and Subparagraph 9.7.1, a change in the Contract Sum or the Contract Time shall be accomplished only by Change Order. Accordingly, no course of conduct or dealings between the parties, nor express or implied acceptance of alterations or additions to the Work, and no claim that the Owner has been unjustly enriched by any alteration or addition to the Work, whether or not there is, in fact, any unjust enrichment to the Work, shall be the basis of any claim to an increase in any amounts due under the Contract Documents or a change in any time period provided for in the Contract Documents.”

7.2 CHANGE ORDERS

7.2.3 Add the following Subparagraph: “Agreement on any Change Order shall constitute a final settlement of all matters relating to the change in the Work which is the subject of the Change Order, including, but not limited to, all direct and indirect costs associated with such change and any and all adjustments to the Contact Sum and the construction schedule. In the event a Change Order increases the Contract Sum, Contractor shall include the Work covered by such Change Orders in Applications for Payment as if such Work were originally part of the Contract Documents.”

7.3 CONSTRUCTION CHANGE DIRECTIVES

7.3.10 Add the following Subparagraph: “The term, "allowance for overhead and profit," wherever mentioned in this Contract, shall be limited by the following conditions:

"Overhead Costs" shall include the following: Supervision, superintendent, wages of timekeepers, watchmen and clerks, hand tools, incidentals, general office expense, and all other expenses not included in "cost" as defined in Subparagraph 7.3.6 and including all costs associated with time extensions granted as a part of change orders.

Overhead and profit shall not exceed 15% of the value of labor and material for Work performed by the Contractor. If the work is performed by a Subcontractor, the Contractor’s overhead and profit shall not exceed 7 ½ %.”

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ARTICLE 8 TIME

8.3 DELAYS AND EXTENSIONS OF TIME

8.3.1 In Line 5 delete: "pending mediation and arbitration, or".

ARTICLE 9 PAYMENTS AND COMPLETION

9.7 FAILURE OF PAYMENT

9.7.1 In Line 4, delete the phrase: "or awarded by arbitration".

9.8 SUBSTANTIAL COMPLETION

9.8.1 Add after the phrase "for its intended use": "; provided, however, that as a condition precedent to Substantial Completion, the Owner has received all certificates of occupancy and any other permits, approvals, licenses, and other documents from any governmental authority having jurisdiction thereof necessary for the beneficial occupancy of the Project."

9.10 FINAL COMPLETION AND FINAL PAYMENT

9.10.1 Add at the end of the Subparagraph: "All warranties and guarantees required under or pursuant to the Contract Documents shall be assembled and delivered by the Contractor to the Architect as part of the final Application for Payment. The final Certificate for Payment will not be issued by the Architect until all warranties and guarantees have been received by the Owner."

ARTICLE 10 PROTECTION OF PERSONS AND PROPERTY

10.1 SAFETY PRECAUTIONS AND PROGRAMS

10.1.1 Add at the end of the Subparagraph: "In no event, however, shall the Owner have any responsibility for any substance or material that is brought to the Project site by the Contractor, any Subcontractor, any materialman or supplier or any entity for whom any of them is responsible. The Contractor agrees not to use any fill or other materials to be incorporated into the Work which are hazardous, toxic or comprised of any items that are hazardous or toxic."

ARTICLE 11 INSURANCE AND BONDS

11.1 CONTRACTOR'S LIABILITY INSURANCE

11.1.2.1 Add the following Clause: "The insurance required by Subparagraph 11.1.1 shall be written with an "A" rated company and written for not less than the following, or greater if required by law:

1. Worker's Compensation – State, Statutory

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2. Comprehensive General Liability (including Premises – Operations; Independent Contractors’ Protective; Products and Completed Operations; All Risk Property Damage):
 - a. Bodily Injury/Property Damage: \$2,000,000 each occurrence
\$2,000,000 annual aggregate
 - b. Property Damage Liability Insurance will provide X, C, or U coverage as applicable.
3. Contractual Liability:
 - a. Bodily Injury/Property Damage: \$2,000,000 each occurrence
\$2,000,000 annual aggregate
4. Personal Injury, with Employment Exclusion deleted
- \$1,000,000 annual aggregate
5. Comprehensive Automobile Liability:
 - a. Bodily Injury/Property Damage: \$1,000,000 each person
\$1,000,000 each occurrence

11.3 PROJECT MANAGEMENT PROTECTIVE LIABILITY INSURANCE

11.3.3 Delete this Subparagraph in its entirety.

11.4 PROPERTY INSURANCE

11.4.1 In the first sentence, delete “Unless otherwise provided, the Owner “ and substitute “The Contractor”. Add at the end of the Subparagraph:

“The form of policy for this coverage shall be completed value. If the Owner is damaged by the failure of the Contractor to maintain such insurance, then the Contractor shall bear all reasonable costs properly attributable thereto.”

11.4.1.2 Delete Clause 11.4.1.2 in its entirety.

11.4.1.3 Delete Clause 11.4.1.3 in its entirety.

11.4.4 Delete Subparagraph 11.4.4 in its entirety.

11.4.6 Delete Subparagraph 11.4.6 and substitute the following: “Before an exposure to loss may occur, the Contractor shall file with the Owner two (2) certified copies of the policy or policies providing this Property Insurance coverage, each containing those endorsements specifically related to the Project. Each policy shall contain a provision that the policy will not be canceled or allowed to expire until at least thirty (30) days prior written notice has been given to the Contractor.”

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11.4.7 Modify Subparagraph 11.4.7 by substituting “Contractor” for “Owner” at the end of the first sentence.

11.4.8 Modify Subparagraph 11.4.8 by substituting “Contractor” for “Owner” as fiduciary; except that at the first reference to “Owner” in the first sentence, the word “this” should be substituted for “Owner’s”.

11.4.9 Modify Subparagraph 11.4.9 by substituting “Contractor” for “Owner” each time the latter word appears and in line 5 delete the phrase “or in accordance with an arbitration award in which case the procedure shall be as provided in paragraph 4.6.”

11.4.10 Modify Subparagraph 11.4.10 by substituting “Contractor” for “Owner” each time the latter word appears and deleting all words in the Subparagraph after the word “power” in the third line.

END OF SUPPLEMENTARY CONDITIONS

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SECTION 01110 - SUMMARY OF WORK

PART 1 - GENERAL

1.1 SCOPE OF WORK

Without force and effect upon the work defined and required by the project manual and drawings, the project involves removal of existing roof and substrates down to roof deck and replacement with new roof, substrates, and insulation including work indicated for roofing of back side and top of parapet walls. The project also involves a partial removal of portions of existing roof where indicated on drawings and provision of new roof membrane and substrate over existing remaining roof and replacement of removed roof assembly with new roof assembly as indicated. The addition of one OSHA compliant roof guardrail is also included.

1.2 SINGLE PRIME CONTRACT

A. These documents form the Contract Documents for the Contract with the Owner as follows:

1. The Agreement;
2. The Addenda;
3. The General Conditions of the Contract;
4. Technical Specifications Divisions One thru Sixteen;
5. Drawings;
 - a) Cover Sheet;
 - b) G series sheets;
 - c) A series sheets;

1.3 CONSTRUCTION SEQUENCE

- A. It is recognized that this project will tend to disrupt operations of the existing facility; however, certain vital operations and services now in the construction area cannot be terminated or disrupted.
- B. The following description explains these steps and this sequence must be adhered to by all Contractors.

1.4 PHASING PLAN

The Work for this project is to be completed in a single phase. Specific sequence of work and laydown area needs to be coordinated with the Owner. The Owner is to have final approval of the scheduled work tasks so as to minimize the disruption caused by the construction of this project to the ongoing operations of the Police Fire-Rescue Headquarters; note normal operating hours are Monday-Friday from 8am to 5pm. Saturday by request and approval of the Owner. No Sunday work will be allowed.

1.5 CONTRACTOR'S USE OF PREMISES

- A. General:

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1. Confine operations to areas within Contract limits indicated. Portions of the site beyond these limits shall not be disturbed.
- B. Keep driveways and entrances serving the premises clear and available to the Owner at all times.
- C. Do not use these areas for parking or storage of materials. Schedule deliveries to minimize space and time requirements for storage of materials and equipment on site.
- D. Maintain the existing building in a weather tight condition throughout the construction period. Repair damage caused by construction operations immediately. Take all precautions necessary to protect the building and its occupants during the construction period.

1.6 OWNER OCCUPANCY:

- A. Full Owner Occupancy:
 1. The Owner will occupy the site and existing building during the entire construction period. Cooperate with the Owner during construction operations to minimize conflicts and facilitate Owner usage. Schedule and perform the Work so as not to interfere with the Owner's operations.

PART 2 - PRODUCTS (Not Applicable).

PART 3 - EXECUTION (Not Applicable).

END OF SECTION 01110

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SECTION 01230 – ALTERNATES

PART 1 - GENERAL

1.1 SUMMARY

- A. This Section includes administrative and procedural requirements for alternates.

1.2 DEFINITIONS

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

1. The cost or credit for each alternate is the net addition to or deduction from the Contract Sum to incorporate alternate into the Work. No other adjustments are made to the Contract Sum.

1.3 PROCEDURES

- A. Coordination: Modify or adjust affected adjacent work as necessary to completely integrate work of the alternate into Project.
1. Include as part of each alternate, miscellaneous devices, accessory objects, and similar items incidental to or required for a complete installation whether or not indicated as part of alternate.
- B. Notification: Immediately following award of the Contract, notify each party involved, in writing, of the status of each alternate. Indicate if alternates have been accepted, rejected, or deferred for later consideration. Include a complete description of negotiated modifications to alternates.
- C. Execute accepted alternates under the same conditions as other work of the Contract.
- D. Schedule: A Schedule of Alternates is included at the end of this Section. Specification Sections referenced in schedule contain requirements for materials necessary to achieve the work described under each alternate.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 SCHEDULE OF ALTERNATES

Alternate No.1 - Provide new coping throughout to match existing and as specified.

Alternate No. 2 – Provide new 60 mil fully adhered black EPDM membrane as manufactured by Firestone or Carlisle in lieu of TPO membrane indicated for base bid.

END OF SECTION 01230

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SECTION 01250 - CONTRACT MODIFICATION PROCEDURES

PART 1 - GENERAL

1.1 SUMMARY

- A. This Section specifies administrative and procedural requirements for handling and processing Contract modifications.

1.2 MINOR CHANGES IN THE WORK

- A. Architect will issue supplemental instructions authorizing Minor Changes in the Work, not involving adjustment to the Contract Sum or the Contract Time, on AIA Document G710, "Architect's Supplemental Instructions."

1.3 PROPOSAL REQUESTS

- A. Owner-Initiated Proposal Requests: Architect will issue a detailed description of proposed changes in the Work that may require adjustment to the Contract Sum or the Contract Time. If necessary, the description will include supplemental or revised Drawings and Specifications.
 - 1. Proposal Requests issued by Architect are for information only. Do not consider them instructions either to stop work in progress or to execute the proposed change.
 - 2. Within 20 days after receipt of Proposal Request, submit a quotation estimating cost adjustments to the Contract Sum and the Contract Time necessary to execute the change.
 - a. Include a list of quantities of products required or eliminated and unit costs, with total amount of purchases and credits to be made. If requested, furnish survey data to substantiate quantities.
 - b. Indicate applicable taxes, delivery charges, equipment rental, and amounts of trade discounts.
 - c. Include an updated Contractor's Construction Schedule that indicates the effect of the change, including, but not limited to, changes in activity duration, start and finish times, and activity relationship. Use available total float before requesting an extension of the Contract Time.
- B. Contractor-Initiated Proposals: If latent or unforeseen conditions require modifications to the Contract, Contractor may propose changes by submitting a request for a change.
 - 1. Include a statement outlining reasons for the change and the effect of the change on the Work. Provide a complete description of the proposed change. Indicate the effect of the proposed change on the Contract Sum and the Contract Time.
 - 2. Include a list of quantities of products required or eliminated and unit costs, with total amount of purchases and credits to be made. If requested, furnish survey data to substantiate quantities.
 - 3. Indicate applicable taxes, delivery charges, equipment rental, and amounts of trade discounts.

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4. Include an updated Contractor's Construction Schedule that indicates the effect of the change, including, but not limited to, changes in activity duration, start and finish times, and activity relationship. Use available total float before requesting an extension of the Contract Time.
5. Comply with requirements in Division 1 Section "Product Requirements" if the proposed change requires substitution of one product or system for product or system specified.

C. Proposal Request Form: Use AIA Document G709.

1.4 CHANGE ORDER PROCEDURES

- A. On Owner's approval of a Proposal Request, Architect will issue a Change Order for signatures of Owner and Contractor on AIA Document G701.

1.5 CONSTRUCTION CHANGE DIRECTIVE

- A. Construction Change Directive: Architect may issue a Construction Change Directive on AIA Document G714. Construction Change Directive instructs Contractor to proceed with a change in the Work, for subsequent inclusion in a Change Order.

1. Construction Change Directive contains a complete description of change in the Work. It also designates method to be followed to determine change in the Contract Sum or the Contract Time.

- B. Documentation: Maintain detailed records on a time and material basis of work required by the Construction Change Directive.

1. After completion of change, submit an itemized account and supporting data necessary to substantiate cost and time adjustments to the Contract.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 01250

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SECTION 01290 - PAYMENT PROCEDURES

PART 1 - GENERAL

1.1 SUMMARY

- A. This Section specifies administrative and procedural requirements necessary to prepare and process Applications for Payment.

1.2 SCHEDULE OF VALUES

- A. Coordination: Coordinate preparation of the Schedule of Values with preparation of Contractor's Construction Schedule.
1. Correlate line items in the Schedule of Values with other required administrative forms and schedules, including Application for Payment forms with Continuation Sheets.
 2. Submit the Schedule of Values to Architect at earliest possible date but no later than seven days before the date scheduled for submittal of initial Applications for Payment.
- B. Format and Content: Use the Project Manual table of contents as a guide to establish line items for the Schedule of Values. Provide at least one line item for each Specification Section.
1. Arrange the Schedule of Values in tabular form with separate columns to indicate the following for each item listed:
 - a. Related Specification Section or Division.
 - b. Description of the Work.
 - c. Dollar value.
 - 1) Percentage of the Contract Sum to nearest one-hundredth percent, adjusted to total 100 percent.
 2. Provide a breakdown of the Contract Sum in enough detail to facilitate continued evaluation of Applications for Payment and progress reports. Coordinate with the Project Manual table of contents. Provide several line items for principal subcontract amounts, where appropriate.
 3. Round amounts to nearest whole dollar; total shall equal the Contract Sum.
 4. Provide a separate line item in the Schedule of Values for each part of the Work where Applications for Payment may include materials or equipment purchased or fabricated and stored, but not yet installed.
 5. Provide separate line items in the Schedule of Values for initial cost of materials, for each subsequent stage of completion, and for total installed value of that part of the Work.
 6. Each item in the Schedule of Values and Applications for Payment shall be complete. Include total cost and proportionate share of general overhead and profit for each item.
 - a. Temporary facilities and other major cost items that are not direct cost of actual work-in-place may be shown either as separate line items in the Schedule of Values or distributed as general overhead expense, at Contractor's option.

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7. Schedule Updating: Update and resubmit the Schedule of Values before the next Applications for Payment when Change Orders or Construction Change Directives result in a change in the Contract Sum.

1.3 APPLICATIONS FOR PAYMENT

- A. Each Application for Payment shall be consistent with previous applications and payments as certified by Architect and paid for by Owner.
 1. Stating that Surety agrees to payment of the sum requested, that the value of the work stated in the Contractor's request is a true statement, and that the sums requested for stored materials (if any) are correct.
 2. Provide Certified Sales Tax Report.
 3. Lien waivers.
 4. Proof of Payment Certification form (in accordance with section 00102).
 5. Initial Application for Payment, Application for Payment at time of Substantial Completion, and final Application for Payment involve additional requirements: See related sections below.
- B. Payment Application Times: The date for each progress payment is indicated in the Agreement between Owner and Contractor. The period of construction Work covered by each Application for Payment is the period indicated in the Agreement.
- C. Payment Application Forms: Use AIA Document G702 and AIA Document G703 Continuation Sheets as form for Applications for Payment.
- D. Application Preparation: Complete every entry on form. Notarize and execute by a person authorized to sign legal documents on behalf of Contractor. Architect will return incomplete applications without action.
 1. Entries shall match data on the Schedule of Values and Contractor's Construction Schedule. Use updated schedules if revisions were made.
 2. Include amounts of Change Orders and Construction Change Directives issued before last day of construction period covered by application.
- E. Transmittal: Submit 3 signed and notarized original copies of each Application for Payment to Architect by a method ensuring receipt within 48 hours. One copy shall include waivers of lien and similar attachments if required.
 1. Transmit each copy with a transmittal form listing attachments and recording appropriate information about application.
- F. Initial Application for Payment: Administrative actions and submittals that must precede or coincide with submittal of first Application for Payment include the following:
 1. List of subcontractors.
 2. Schedule of Values.
 3. Contractor's Construction Schedule (preliminary if not final).
 4. Submittals Schedule (preliminary if not final).

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5. Certificates of insurance and insurance policies before construction starts.
 6. Performance and payment bonds before construction starts.
- G. Application for Payment at Substantial Completion: After issuing the Certificate of Substantial Completion, submit an Application for Payment showing 100 percent completion for portion of the Work claimed as substantially complete.
1. Include documentation supporting claim that the Work is substantially complete and a statement showing an accounting of changes to the Contract Sum.
 2. This application shall reflect Certificates of Partial Substantial Completion issued previously for Owner occupancy of designated portions of the Work.
- H. Final Payment Application: Submit final Application for Payment with releases and supporting documentation not previously submitted and accepted, including, but not limited, to the following:
1. Evidence of completion of Project closeout requirements.
 2. Insurance certificates for products and completed operations where required and proof that taxes, fees, and similar obligations were paid.
 3. Updated final statement, accounting for final changes to the Contract Sum.
 4. AIA Document G706, "Contractor's Affidavit of Payment of Debts and Claims."
 5. AIA Document G706A, "Contractor's Affidavit of Release of Liens."
 6. AIA Document G707, "Consent of Surety to Final Payment."
 7. Evidence that claims have been settled.
 8. Final meter readings for utilities, a measured record of stored fuel, and similar data as of date of Substantial Completion or when Owner took possession of and assumed responsibility for corresponding elements of the Work.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 01290

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SECTION 01310 - PROJECT MANAGEMENT AND COORDINATION

PART 1 - GENERAL

1.1 SUMMARY

- A. This Section includes administrative provisions for coordinating construction operations on Project including, but not limited to, the following:
1. General Project coordination procedures.
 2. Coordination Drawings.
 3. Project meetings.

1.2 COORDINATION

- A. Coordination: Coordinate construction operations included in various Sections of the Specifications to ensure efficient and orderly installation of each part of the Work. Coordinate construction operations, included in different Sections that depend on each other for proper installation, connection, and operation.
1. Schedule construction operations in sequence required to obtain the best results where installation of one part of the Work depends on installation of other components, before or after its own installation.
 2. Coordinate installation of different components with other contractors to ensure maximum accessibility for required maintenance, service, and repair.
 3. Make adequate provisions to accommodate items scheduled for later installation.
- B. If necessary, prepare memoranda for distribution to each party involved, outlining special procedures required for coordination. Include such items as required notices, reports, and list of attendees at meetings.
1. Prepare similar memoranda for Owner and separate contractors if coordination of their Work is required.
- C. Administrative Procedures: Coordinate scheduling and timing of required administrative procedures with other construction activities and activities of other contractors to avoid conflicts and to ensure orderly progress of the Work. Such administrative activities include, but are not limited to, the following:
1. Preparation of Contractor's Construction Schedule.
 2. Preparation of the Schedule of Values.
 3. Installation and removal of temporary facilities and controls.
 4. Delivery and processing of submittals.
 5. Progress meetings.
 6. Preinstallation conferences.
 7. Project closeout activities.

1.3 SUBMITTALS

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1.4 PROJECT MEETINGS

- A. General: Schedule and conduct meetings and conferences at Project site, unless otherwise indicated.
1. Attendees: Inform participants and others involved, and individuals whose presence is required, of date and time of each meeting. Notify Owner and Architect of scheduled meeting dates and times.
 2. Agenda: Prepare the meeting agenda. Distribute the agenda to all invited attendees.
 3. Minutes: Record significant discussions and agreements achieved. Distribute the meeting minutes to everyone concerned, including Owner and Architect, within 3 days of the meeting.
- B. Preconstruction Conference: Schedule a preconstruction conference before starting construction, at a time convenient to Owner and Architect, but no later than 15 days after execution of the Agreement. Hold the conference at Project site or another convenient location. Conduct the meeting to review responsibilities and personnel assignments.
1. Attendees: Authorized representatives of Owner, Architect, and their consultants; Contractor and its superintendent; major subcontractors; manufacturers; suppliers; and other concerned parties shall attend the conference. All participants at the conference shall be familiar with Project and authorized to conclude matters relating to the Work.
 2. Agenda: Discuss items of significance that could affect progress, including the following:
 - a. Tentative construction schedule.
 - b. Phasing.
 - c. Critical work sequencing.
 - d. Designation of responsible personnel.
 - e. Procedures for processing field decisions and Change Orders.
 - f. Procedures for processing Applications for Payment.
 - g. Distribution of the Contract Documents.
 - h. Submittal procedures.
 - i. Preparation of Record Documents.
 - j. Use of the premises.
 - k. Responsibility for temporary facilities and controls.
 - l. Parking availability.
 - m. Office, work, and storage areas.
 - n. Equipment deliveries and priorities.
 - o. First aid.
 - p. Security.
 - q. Progress cleaning.
 - r. Working hours.
- C. Pre-installation Conferences: Conduct a pre-installation conference at Project site before each construction activity that requires coordination with other construction.
1. Attendees: Installer and representatives of manufacturers and fabricators involved in or affected by the installation and its coordination or integration with other materials and installations that have preceded or will follow, shall attend the meeting. Advise Architect of scheduled meeting dates.
 2. Agenda: Review progress of other construction activities and preparations for the particular activity under consideration, including requirements for the following:
 - a. Contract Documents.
 - b. Options.

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- c. Related Change Orders.
 - d. Purchases.
 - e. Deliveries.
 - f. Submittals.
 - g. Review of mockups.
 - h. Possible conflicts.
 - i. Compatibility problems.
 - j. Time schedules.
 - k. Weather limitations.
 - l. Manufacturer's written recommendations.
 - m. Warranty requirements.
 - n. Compatibility of materials.
 - o. Acceptability of substrates.
 - p. Temporary facilities and controls.
 - q. Space and access limitations.
 - r. Regulations of authorities having jurisdiction.
 - s. Testing and inspecting requirements.
 - t. Required performance results.
 - u. Protection of construction and personnel.
3. Record significant conference discussions, agreements, and disagreements.
4. Do not proceed with installation if the conference cannot be successfully concluded. Initiate whatever actions are necessary to resolve impediments to performance of the Work and reconvene the conference at earliest feasible date.
- D. Progress Meetings: Conduct progress meetings at monthly intervals. Coordinate dates of meetings with preparation of payment requests.
- 1. Attendees: In addition to representatives of Owner and Architect, each contractor, subcontractor, supplier, and other entity concerned with current progress or involved in planning, coordination, or performance of future activities shall be represented at these meetings. All participants at the conference shall be familiar with Project and authorized to conclude matters relating to the Work.
 - 2. Agenda: Review and correct or approve minutes of previous progress meeting. Review other items of significance that could affect progress. Include topics for discussion as appropriate to status of Project.
 - a. Contractor's Construction Schedule: Review progress since the last meeting. Determine whether each activity is on time, ahead of schedule, or behind schedule, in relation to Contractor's Construction Schedule. Determine how construction behind schedule will be expedited; secure commitments from parties involved to do so. Discuss whether schedule revisions are required to ensure that current and subsequent activities will be completed within the Contract Time.
 - b. Review present and future needs of each entity present, including the following:
 - 1) Interface requirements.
 - 2) Sequence of operations.
 - 3) Status of submittals.
 - 4) Deliveries.
 - 5) Off-site fabrication.
 - 6) Access.
 - 7) Site utilization.
 - 8) Temporary facilities and controls.
 - 9) Work hours.
 - 10) Hazards and risks.

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- 11) Progress cleaning.
 - 12) Quality and work standards.
 - 13) Change Orders.
 - 14) Documentation of information for payment requests.
3. Reporting: Distribute minutes of the meeting to each party present and to parties who should have been present. Include a brief summary, in narrative form, of progress since the previous meeting and report.
- a. Schedule Updating: Revise Contractor's Construction Schedule after each progress meeting where revisions to the schedule have been made or recognized. Issue revised schedule concurrently with the report of each meeting.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 01310

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SECTION 01315 - PROJECT MEETINGS

PART 1 - GENERAL

1.1 DESCRIPTION OF WORK

A. Work Included This Section:

1. This Section specifies administrative and procedural requirements for project meetings including but not limited to:
 - a) Pre-Construction Conference.
 - b) Coordination Meetings.
 - c) Progress Meetings.

1.2 PRE-CONSTRUCTION CONFERENCE

A. A pre-construction conference shall be scheduled by the Architect and held at the Project site or other convenient location after execution of the Agreement or Notice to Proceed, whichever comes first and prior to commencement of construction activities.

B. Attendees:

1. The Owner, Architect, the Contractor(s) and its superintendent(s) shall each be represented at the conference by persons authorized to conclude matters relating to the Work.

C. Agenda:

1. Discuss items of significance that could affect progress including such topics as:
 - a) Work sequencing.
 - b) Tentative construction schedule.
 - c) Designation of responsible personnel.
 - d) Procedures for processing Change Proposal Requests and Change orders.
 - e) Procedures for processing Applications for Payment.
 - f) Submittal of Shop Drawings, Product Data and Samples.
 - g) Preparation of record documents.
 - h) Use of the premises.
 - i) Staging areas.
 - j) Security.
 - k) Housekeeping.

1.3 COORDINATION MEETINGS

A. The General Contractor shall 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.

B. Record meeting results and distribute copies to everyone in attendance and to others affected by decisions or actions resulting from each meeting, such as the Owner and Architect.

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C. Weekly Progress Meetings:

1. To enable orderly review of progress during construction and to provide for systematic discussion of problems, weekly project meetings shall be held throughout the construction period.
2. Persons designated by each Subcontractor shall attend and participate in weekly project meetings shall have all required authority to commit the Contractor or Subcontractor to decisions agreed upon in the project meetings.
3. The General Contractor shall conduct the meetings, compile minutes of each meeting and will distribute copies to the Owner and the Architect. The General Contractor shall distribute such other copies as he wishes. Each Contractor shall, to the maximum extent practicable, assign the same person or persons to represent the Contractor or Subcontractor at project meetings throughout the construction period.

D. Owner, Architect, Contractor (OAC) Project Meetings:

1. To enable orderly review of progress during construction and to provide for systematic discussion of problems, project meetings shall be held throughout the construction period at intervals determined prior to construction.
2. The General Contractor shall attend and participate in the OAC project meetings and shall have all required authority to commit the Contractor and Subcontractor(s) to decisions agreed upon in the project meetings.
3. The Architect will conduct the OAC meetings and compile minutes of each meeting and will distribute copies to the Owner and Contractor. The Contractor shall distribute such other copies as required. The General Contractor shall, to the maximum extent practicable, assign the same person or persons to represent the Contractor at project meetings throughout the construction period.

PART 2 - PRODUCTS (Not Applicable)

PART 3 - EXECUTION (Not Applicable)

END OF SECTION 01315

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SECTION 01330 - SUBMITTAL PROCEDURES

PART 1 - GENERAL

1.1 SUMMARY

- A. This Section includes administrative and procedural requirements for submitting Shop Drawings, Product Data, Samples, and other miscellaneous submittals.
- B. See Division 1 Section "Construction Progress Documentation" for submitting schedules and reports, including Contractor's Construction Schedule and the Submittals Schedule.
- C. See Division 1 Section "Closeout Procedures" for submitting warranties Project Record Documents and operation and maintenance manuals.

1.2 DEFINITIONS

- A. Action Submittals: Written and graphic information that requires Architect's responsive action.
- B. Informational Submittals: Written information that does not require Architect's approval. Submittals may be rejected for not complying with requirements.

1.3 SUBMITTAL PROCEDURES

- A. Coordination: Coordinate preparation and processing of submittals with performance of construction activities.
 - 1. Coordinate each submittal with fabrication, purchasing, testing, delivery, other submittals, and related activities that require sequential activity.
 - 2. Coordinate transmittal of different types of submittals for related parts of the Work so processing will not be delayed because of need to review submittals concurrently for coordination.
 - a. Architect reserves the right to withhold action on a submittal requiring coordination with other submittals until related submittals are received.
 - 3. Submittals shall be made in digital (pdf) form via email to the Architect. Paper copies of submittals are not required or desired and will not be acted upon.
- B. Submittals Schedule: Comply with requirements in Division 1 Section "Construction Progress Documentation" for list of submittals and time requirements for scheduled performance of related construction activities.
- C. Processing Time: Allow enough time for submittal review, including time for resubmittals, as follows. Time for review shall commence on Architect's receipt of submittal.
 - 1. If intermediate submittal is necessary, process it in same manner as initial submittal.
 - 2. Allow 14 days for processing each resubmittal.
 - 3. No extension of the Contract Time will be authorized because of failure to transmit submittals enough in advance of the Work to permit processing.
- D. Identification: Include the following information with each submittal for identification.

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1. Indicate name of firm or entity that prepared each submittal.
 2. Include the following information for processing and recording action taken:
 - a. Project name.
 - b. Date.
 - c. Name and address of supplier.
 - d. Name of manufacturer.
 - e. Unique identifier, including revision number.
 - f. Number and title of appropriate Specification Section.
 - g. Drawing number and detail references, as appropriate.
 - h. Other necessary identification.
- E. Deviations: Highlight, encircle, or otherwise identify deviations from the Contract Documents on submittals.
- F. Transmittal: Send each submittal individually and appropriately for transmittal and handling. Transmit each submittal using a digital transmittal form.
- G. Architect will not review submittals received from sources other than Contractor.
- H. Include Contractor's certification stating that information submitted complies with requirements of the Contract Documents.
- I. Distribution: Furnish copies of final submittals to manufacturers, subcontractors, suppliers, fabricators, installers, authorities having jurisdiction, and others as necessary for performance of construction activities. Show distribution on transmittal forms.
- J. Use for Construction: Use only final submittals with mark indicating action taken by Architect in connection with construction.

PART 2 - PRODUCTS

2.1 ACTION SUBMITTALS

- A. General: Prepare and submit Action Submittals required by individual Specification Sections.
1. Number of Copies: Submit 1 digital copy in pdf format via email. Architect will return a digital copy via email.
- B. Product Data: Collect information into a single submittal for each element of construction and type of product or equipment.
1. Mark each copy of each submittal to show which products and options are applicable.
 2. Include the following information, as applicable:
 - a. Manufacturer's written recommendations.
 - b. Manufacturer's product specifications.
 - c. Manufacturer's installation instructions.
 - d. Manufacturer's catalog cuts.
 - e. Wiring diagrams showing factory-installed wiring.
 - f. Printed performance curves.
 - g. Operational range diagrams.
 - h. Compliance with recognized trade association standards.

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- i. Compliance with recognized testing agency standards.
- C. Shop Drawings: Prepare Project-specific information, drawn accurately to scale. Do not base Shop Drawings on reproductions of the Contract Documents or standard printed data.
- 1. Preparation: Include the following information, as applicable:
 - a. Dimensions.
 - b. Identification of products.
 - c. Fabrication and installation drawings.
 - d. Roughing-in and setting diagrams.
 - e. Wiring diagrams showing field-installed wiring, including power, signal, and control wiring.
 - f. Shopwork manufacturing instructions.
 - g. Templates and patterns.
 - h. Schedules.
 - i. Notation of coordination requirements.
 - j. Notation of dimensions established by field measurement.
 - 2. Wiring Diagrams: Differentiate between manufacturer-installed and field-installed wiring.
- D. Samples: Prepare physical units of materials or products, including the following:
- 1. Comply with requirements in Division 1 Section "Quality Requirements" for mockups.
 - 2. Samples for Initial Selection: Submit manufacturer's color charts consisting of units or sections of units showing the full range of colors, textures, and patterns available.
 - a. Submit one full set of available choices where color, pattern, texture, or similar characteristics are required to be selected from manufacturer's product line. Architect will return submittal with options selected.
 - 3. Samples for Verification: Submit full-size units or Samples of size indicated, prepared from the same material to be used for the Work, cured and finished in manner specified, and physically identical with the product proposed for use, and that show full range of color and texture variations expected. Samples include, but are not limited to, partial sections of manufactured or fabricated components; small cuts or containers of materials; complete units of repetitively used materials; swatches showing color, texture, and pattern; color range sets; and components used for independent testing and inspection.
 - a. Submit 3 sets of Samples. Architect will retain 1 Sample set; 2 will be returned to contractor, one of which will remain at job site.
 - 4. Preparation: Mount, display, or package Samples in manner specified to facilitate review of qualities indicated. Prepare Samples to match Architect's sample where so indicated. Attach label on unexposed side.
 - 5. 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 final submittal and actual component as delivered and installed.
 - 6. Disposition: Maintain sets of approved Samples at Project site, available for quality-control comparisons throughout the course of construction activity. Sample sets may be used to determine final acceptance of construction associated with each set.
- E. Product Schedule or List: Prepare a written summary indicating types of products required for the Work and their intended location.

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- F. Submittals Schedule: Comply with requirements in Division 1 Section "Construction Progress Documentation."

2.2 INFORMATIONAL SUBMITTALS

- A. General: Prepare and submit Informational Submittals required by other Specification Sections.
1. Number of Copies: Submit 1 digital submittal in pdf format via email.
 2. Certificates and Certifications: Provide a notarized statement that includes signature of entity responsible for preparing certification. Certificates and certifications shall be signed by an officer or other individual authorized to sign documents on behalf of that entity.
 3. Test and Inspection Reports: Comply with requirements in Division 1 Section "Quality Requirements."
- B. Contractor's Construction Schedule: Comply with requirements in Division 1 Section "Construction Progress Documentation."
- C. Qualification Data: Prepare written information that demonstrates capabilities and experience of firm or person. Include lists of completed projects with project names and addresses, names and addresses of architects and owners, and other information specified.
- D. Product Certificates: Prepare written statements on manufacturer's letterhead certifying that product complies with requirements.
- E. Installer Certificates: Prepare written statements on manufacturer's letterhead certifying that Installer complies with requirements and, where required, is authorized for this specific Project.
- F. Material Certificates: Prepare written statements on manufacturer's letterhead certifying that material complies with requirements.
- G. Material Test Reports: Prepare reports written by a qualified testing agency, on testing agency's standard form, indicating and interpreting test results of material for compliance with requirements.
- H. Product Test Reports: Prepare written reports indicating current product produced by manufacturer complies with requirements. Base reports on evaluation of tests performed by manufacturer and witnessed by a qualified testing agency, or on comprehensive tests performed by a qualified testing agency.
- I. Maintenance Data: Prepare written and graphic instructions and procedures for operation and normal maintenance of products and equipment. Comply with requirements in Division 1 Section "Closeout Procedures."
- J. Design Data: Prepare written and graphic information, including, but not limited to, performance and design criteria, list of applicable codes and regulations, and calculations. Include list of assumptions and other performance and design criteria and a summary of loads. Include load diagrams if applicable. Provide name and version of software, if any, used for calculations. Include page numbers.
- K. Manufacturer's Instructions: Prepare written or published information that documents manufacturer's recommendations, guidelines, and procedures for installing or operating a product or equipment. Include name of product and name, address, and telephone number of manufacturer.

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- L. Manufacturer's Field Reports: Prepare written information documenting factory-authorized service representative's tests and inspections.
- M. Insurance Certificates and Bonds: Prepare written information indicating current status of insurance or bonding coverage. Include name of entity covered by insurance or bond, limits of coverage, amounts of deductibles, if any, and term of the coverage.

PART 3 - EXECUTION

3.1 CONTRACTOR'S REVIEW

- A. Review each submittal and check for compliance with the Contract Documents. Note corrections and field dimensions. Mark with approval stamp before submitting to Architect.
- B. Approval Stamp: Stamp each submittal with a uniform, approval stamp. Include Project name and location, submittal number, Specification Section title and number, name of reviewer, date of Contractor's approval, and statement certifying that submittal has been reviewed, checked, and approved for compliance with the Contract Documents.

3.2 ARCHITECT'S ACTION

- C. General: Architect will not review submittals that do not bear Contractor's approval stamp and will return them without action.
- D. Action Submittals: Architect will review each submittal, make marks to indicate corrections or modifications required, and return it. Architect will stamp each submittal with an action stamp and will mark stamp appropriately to indicate action taken:
- E. Informational Submittals: Architect will review each submittal and will not return it, or will reject and return it if it does not comply with requirements. Architect will forward each submittal to appropriate party.
- F. Submittals not required by the Contract Documents will not be reviewed and may be discarded.

END OF SECTION 01330

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SECTION 01400 - QUALITY REQUIREMENTS

PART 1 - GENERAL

1.1 SUMMARY

- A. This Section includes administrative and procedural requirements for quality assurance and quality control.
- B. Testing and inspecting services are required to verify compliance with requirements specified or indicated. These services do not relieve Contractor of responsibility for compliance with the Contract Document requirements.
 - 1. Specified tests, inspections, and related actions do not limit Contractor's quality-control procedures that facilitate compliance with the Contract Document requirements.
 - 2. Requirements for Contractor to provide quality-control services required by Architect, Owner, or authorities having jurisdiction are not limited by provisions of this Section.
- C. See Divisions 2 through 16 Sections for specific test and inspection requirements.

1.2 DEFINITIONS

- A. Quality-Assurance Services: Activities, actions, and procedures performed before and during execution of the Work to guard against defects and deficiencies and ensure that proposed construction complies with requirements.
- B. Quality-Control Services: Tests, inspections, procedures, and related actions during and after execution of the Work to evaluate that completed construction complies with requirements. Services do not include contract enforcement activities performed by Architect.
- C. Testing Agency: An entity engaged to perform specific tests, inspections, or both. Testing laboratory shall mean the same as testing agency.

1.3 SUBMITTALS

- A. Qualification Data: For testing agencies specified in "Quality Assurance" Article to demonstrate their capabilities and experience. Include proof of qualifications in the form of a recent report on the inspection of the testing agency by a recognized authority.
- B. Reports: Prepare and submit certified written reports that include the following:
 - 1. Date of issue.
 - 2. Project title and number.
 - 3. Name, address, and telephone number of testing agency.
 - 4. Dates and locations of samples and tests or inspections.
 - 5. Names of individuals making tests and inspections.
 - 6. Description of the Work and test and inspection method.
 - 7. Identification of product and Specification Section.
 - 8. Complete test or inspection data.

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9. Test and inspection results and an interpretation of test results.
10. Ambient conditions at time of sample taking and testing and inspecting.
11. Comments or professional opinion on whether tested or inspected Work complies with the Contract Document requirements.
12. Name and signature of laboratory inspector.
13. Recommendations on retesting and re-inspecting.

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

1.4 QUALITY ASSURANCE

- A. Fabricator Qualifications: A firm experienced in producing products similar to those indicated for this Project and with a record of successful in-service performance, as well as sufficient production capacity to produce required units.
- B. Factory-Authorized Service Representative Qualifications: An authorized representative of manufacturer who is trained and approved by manufacturer to inspect installation of manufacturer's products that are similar in material, design, and extent to those indicated for this Project.
- C. Installer Qualifications: A firm or individual experienced in installing, erecting, or assembling work similar in material, design, and extent to that indicated for this Project, whose work has resulted in construction with a record of successful in-service performance.
- D. Manufacturer Qualifications: A firm experienced in manufacturing products or systems similar to those indicated for this Project and with a record of successful in-service performance.
- E. Specialists: Certain sections of the Specifications require that specific construction activities shall be performed by entities who are recognized experts in those operations. Specialists shall satisfy qualification requirements indicated and shall be engaged for the activities indicated.
1. Requirement for specialists shall not supersede building codes and similar regulations governing the Work, nor interfere with local trade-union jurisdictional settlements and similar conventions.
- F. Testing Agency Qualifications: An agency with the experience and capability to conduct testing and inspecting indicated, as documented by ASTM E 548, and that specializes in types of tests and inspections to be performed.

1.5 QUALITY CONTROL

- A. Owner Responsibilities: Where quality-control services are indicated as Owner's responsibility, Owner will engage a qualified testing agency to perform these services.
1. Owner will furnish Contractor with names, addresses, and telephone numbers of testing agencies engaged and a description of the types of testing and inspecting they are engaged to perform.
 2. Costs for retesting and re-inspecting construction that replaces or is necessitated by work that failed to comply with the Contract Documents will be charged to Contractor.

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- B. Contractor Responsibilities: Unless otherwise indicated, provide quality-control services specified and required by authorities having jurisdiction.
1. Where services are indicated as Contractor's responsibility, engage a qualified testing agency to perform these quality-control services.
 - a. Contractor shall not employ the same entity engaged by Owner, unless agreed to in writing by Owner.
 2. Notify testing agencies at least 24 hours in advance of time when Work that requires testing or inspecting will be performed.
 3. Where quality-control services are indicated as Contractor's responsibility, submit a certified written report, in duplicate, of each quality-control service.
 4. Testing and inspecting requested by Contractor and not required by the Contract Documents are Contractor's responsibility.
 5. Submit additional copies of each written report directly to authorities having jurisdiction, when they so direct.
- C. Manufacturer's Field Services: Where indicated, engage a factory-authorized service representative to inspect field-assembled components and equipment installation, including service connections. Report results in writing.
- D. Retesting/Re-inspecting: Regardless of whether original tests or inspections were Contractor's responsibility, provide quality-control services, including retesting and re-inspecting, for construction that revised or replaced Work that failed to comply with requirements established by the Contract Documents.
- E. Testing Agency Responsibilities: Cooperate with Architect and Contractor in performance of duties. Provide qualified personnel to perform required tests and inspections.
1. Notify Architect and Contractor promptly of irregularities or deficiencies observed in the Work during performance of its services.
 2. Interpret tests and inspections and state in each report whether tested and inspected work complies with or deviates from requirements.
 3. Submit a certified written report, in duplicate, of each test, inspection, and similar quality-control service through Contractor.
 4. Do not release, revoke, alter, or increase requirements of the Contract Documents or approve or accept any portion of the Work.
 5. Do not perform any duties of Contractor.
- F. Coordination: Coordinate sequence of activities to accommodate required quality-assurance and quality-control services with a minimum of delay and to avoid necessity of removing and replacing construction to accommodate testing and inspecting.
1. Schedule times for tests, inspections, obtaining samples, and similar activities.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 REPAIR AND PROTECTION

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- A. General: On completion of testing, inspecting, sample taking, and similar services, repair damaged construction and restore substrates and finishes.
 - 1. Provide materials and comply with installation requirements specified in other Sections of these Specifications. Restore patched areas and extend restoration into adjoining areas in a manner that eliminates evidence of patching.
 - 2. Comply with the Contract Document requirements for Division 1 Section "Cutting and Patching."
- B. Protect construction exposed by or for quality-control service activities.
- C. Repair and protection are Contractor's responsibility, regardless of the assignment of responsibility for quality-control services.

END OF SECTION 01400

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SECTION 01420 - REFERENCES

PART 1 - GENERAL

1.1 DEFINITIONS

- A. General: Basic Contract definitions are included in the Conditions of the Contract.
- B. "Approved": When used to convey Architect's action on Contractor's submittals, applications, and requests, "approved" is limited to Architect's duties and responsibilities as stated in the Conditions of the Contract.
- C. "Directed": A command or instruction by Architect. Other terms including "requested," "authorized," "selected," "approved," "required," and "permitted" have the same meaning as "directed."
- D. "Indicated": Requirements expressed by graphic representations or in written form on Drawings, in Specifications, and in other Contract Documents. Other terms including "shown," "noted," "scheduled," and "specified" have the same meaning as "indicated."
- E. "Regulations": Laws, ordinances, statutes, and lawful orders issued by authorities having jurisdiction, and rules, conventions, and agreements within the construction industry that control performance of the Work.
- F. "Furnish": Supply and deliver to Project site, ready for unloading, unpacking, assembly, installation, and similar operations.
- G. "Install": Operations at Project site including unloading, temporarily storing, unpacking, assembling, erecting, placing, anchoring, applying, working to dimension, finishing, curing, protecting, cleaning, and similar operations.
- H. "Provide": Furnish and install, complete and ready for the intended use.
- I. "Installer": Contractor or another entity engaged by Contractor as an employee, Subcontractor, or Sub-subcontractor, to perform a particular construction operation, including installation, erection, application, and similar operations.
 - 1. Using a term such as "carpentry" does not imply that certain construction activities must be performed by accredited or unionized individuals of a corresponding generic name, such as "carpenter." It also does not imply that requirements specified apply exclusively to tradespeople of the corresponding generic name.
- J. "Experienced": When used with an entity, "experienced" means having successfully completed a minimum of five previous projects similar in size and scope to this Project; being familiar with special requirements indicated; and having complied with requirements of authorities having jurisdiction.
- K. "Project Site": Space available for performing construction activities. The extent of Project site is shown on Drawings and may or may not be identical with the description of the land on which Project is to be built.

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1.2 INDUSTRY STANDARDS

- A. Applicability of Standards: Unless the Contract Documents include more stringent requirements, applicable construction industry standards have the same force and effect as if bound or copied directly into the Contract Documents to the extent referenced. Such standards are made a part of the Contract Documents by reference.
- B. Publication Dates: Comply with standards in effect as of date of the Contract Documents, unless otherwise indicated.
- C. Conflicting Requirements: If compliance with two or more standards is specified and the standards establish different or conflicting requirements for minimum quantities or quality levels, comply with the most stringent requirement. Refer uncertainties and requirements that are different, but apparently equal, to Architect for a decision before proceeding.
 - 1. Minimum Quantity or Quality Levels: The quantity or quality level shown or specified shall be the minimum provided or performed. The actual installation may comply exactly with the minimum quantity or quality specified, or it may exceed the minimum within reasonable limits. To comply with these requirements, indicated numeric values are minimum or maximum, as appropriate, for the context of requirements. Refer uncertainties to Architect for a decision before proceeding.
- D. Copies of Standards: Each entity engaged in construction on Project must be familiar with industry standards applicable to its construction activity. Copies of applicable standards are not bound with the Contract Documents.
 - 1. Where copies of standards are needed to perform a required construction activity, obtain copies directly from publication source and make them available on request.
- E. Abbreviations and Acronyms for Standards and Regulations: Where abbreviations and acronyms are used in Specifications or other Contract Documents, they shall mean the recognized name of the standards and regulations in the following list.

| | |
|---------|--|
| ADAAG | Americans with Disabilities Act (ADA) |
| CFR | Code of Federal Regulations |
| CRD | Handbook for Concrete and Cement |
| DOD | Department of Defense Specifications and Standards |
| FED-STD | Federal Standard (See FS) |
| FS | Federal Specification |
| FTMS | Federal Test Method Standard (See FS) |
| MILSPEC | Military Specification and Standards |
| UFAS | Uniform Federal Accessibility Standards |

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POLICE FIRE-RESCUE HEADQUARTERS
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1.3 ABBREVIATIONS AND ACRONYMS

- A. Industry Organizations: Where abbreviations and acronyms are used in Specifications or other Contract Documents, they shall mean the recognized name of the entities indicated in Gale Research's "Encyclopedia of Associations" or in Columbia Books' "National Trade & Professional Associations of the U.S."
- B. Industry Organizations: Where abbreviations and acronyms are used in Specifications or other Contract Documents, they shall mean the recognized name of the entities in the following list.

| | |
|--------|--|
| AA | Aluminum Association, Inc. (The) |
| AAADM | American Association of Automatic Door Manufacturers |
| AABC | Associated Air Balance Council |
| AAMA | American Architectural Manufacturers Association |
| AAN | American Association of Nurserymen (See ANLA) |
| AASHTO | American Association of State Highway and Transportation Officials |
| AATCC | American Association of Textile Chemists and Colorists (The) |
| ABMA | American Bearing Manufacturers Association |
| ACI | American Concrete Institute/ACI International |
| ACPA | American Concrete Pipe Association |
| AEIC | Association of Edison Illuminating Companies, Inc. (The) |
| AFPA | American Forest & Paper Association (See AF&PA) |
| AF&PA | American Forest & Paper Association |
| AGA | American Gas Association |
| AGC | Associated General Contractors of America (The) |
| AHA | American Hardboard Association |
| AHAM | Association of Home Appliance Manufacturers |
| AI | Asphalt Institute |
| AIA | American Institute of Architects (The) |
| AISC | American Institute of Steel Construction |
| AISI | American Iron and Steel Institute |
| AITC | American Institute of Timber Construction |

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| | |
|--------|--|
| ALCA | Associated Landscape Contractors of America |
| ALSC | American Lumber Standard Committee |
| AMCA | Air Movement and Control Association International, Inc. |
| ANLA | American Nursery & Landscape Association (Formerly: AAN - American Association of Nurserymen) |
| ANSI | American National Standards Institute |
| AOSA | Association of Official Seed Analysts |
| APA | APA - The Engineered Wood Association |
| APA | Architectural Precast Association |
| API | American Petroleum Institute |
| ARI | Air-Conditioning & Refrigeration Institute |
| ASCA | Architectural Spray Coaters Association |
| ASCE | American Society of Civil Engineers |
| ASHRAE | American Society of Heating, Refrigerating and Air-Conditioning Engineers |
| ASME | ASME International (The American Society of Mechanical Engineers International) |
| ASSE | American Society of Sanitary Engineering |
| ASTM | ASTM International (American Society for Testing and Materials International) |
| AWCI | AWCI International (Association of the Wall and Ceiling Industries International) |
| AWCMA | American Window Covering Manufacturers Association (See WCMA) |
| AWI | Architectural Woodwork Institute |
| AWPA | American Wood-Preservers' Association |
| AWS | American Welding Society |
| AWWA | American Water Works Association |
| BHMA | Builders Hardware Manufacturers Association |
| BIA | Brick Industry Association (The) |
| BIFMA | BIFMA International (Business and Institutional Furniture Manufacturer's Association International) |

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| | |
|-------|--|
| CCC | Carpet Cushion Council |
| CCFSS | Center for Cold-Formed Steel Structures |
| CDA | Copper Development Association Inc. |
| CEA | Canadian Electricity Association |
| CFFA | Chemical Fabrics & Film Association, Inc. |
| CGA | Compressed Gas Association |
| CGSB | Canadian General Standards Board |
| CIMA | Cellulose Insulation Manufacturers Association |
| CISCA | Ceilings & Interior Systems Construction Association |
| CISPI | Cast Iron Soil Pipe Institute |
| CLFMI | Chain Link Fence Manufacturers Institute |
| CPPA | Corrugated Polyethylene Pipe Association |
| CRI | Carpet & Rug Institute (The) |
| CRSI | Concrete Reinforcing Steel Institute |
| CSA | CSA International (Formerly: IAS - International Approval Services) |
| CSI | Construction Specifications Institute (The) |
| CSSB | Cedar Shake & Shingle Bureau |
| CTI | Cooling Technology Institute (Formerly: Cooling Tower Institute) |
| DHI | Door and Hardware Institute |
| EIA | Electronic Industries Alliance |
| EIMA | EIFS Industry Members Association |
| EJMA | Expansion Joint Manufacturers Association, Inc. |
| FCI | Fluid Controls Institute |
| FGMA | Flat Glass Marketing Association (See GANA) |
| FM | Factory Mutual System (See FMG) |
| FMG | FM Global (Formerly: FM - Factory Mutual System) |

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| | |
|-------|---|
| FSC | Forest Stewardship Council |
| GA | Gypsum Association |
| GANA | Glass Association of North America (Formerly: FGMA - Flat Glass Marketing Association) |
| GRI | Geosynthetic Research Institute |
| GTA | Glass Tempering Division of Glass Association of North America (See GANA) |
| HI | Hydraulic Institute |
| HI | Hydronics Institute |
| HMMA | Hollow Metal Manufacturers Association (See NAAMM) |
| HPVA | Hardwood Plywood & Veneer Association |
| HPW | H. P. White Laboratory, Inc. |
| IAS | International Approval Services (See CSA) |
| ICEA | Insulated Cable Engineers Association, Inc. |
| ICRI | International Concrete Repair Institute, Inc. |
| IEC | International Electrotechnical Commission |
| IEEE | Institute of Electrical and Electronics Engineers, Inc. (The) |
| IESNA | Illuminating Engineering Society of North America |
| IGCC | Insulating Glass Certification Council |
| IGMA | Insulating Glass Manufacturers Alliance (The) |
| ILI | Indiana Limestone Institute of America, Inc. |
| ISSFA | International Solid Surface Fabricators Association |
| I3A | International Imaging Industry Association (Formerly: PIMA - Photographic & Imaging Manufacturers Association) |
| ITS | Intertek Testing Services |
| IWS | Insect Screening Weavers Association (Now defunct) |
| KCMA | Kitchen Cabinet Manufacturers Association |
| LMA | Laminating Materials Association (Formerly: ALA - American Laminators Association) |
| LPI | Lightning Protection Institute |

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| | |
|--------|---|
| LSGA | Laminated Safety Glass Association (See GANA) |
| MBMA | Metal Building Manufacturers Association |
| MFMA | Maple Flooring Manufacturers Association |
| MFMA | Metal Framing Manufacturers Association |
| MHIA | Material Handling Industry of America |
| MIA | Marble Institute of America |
| ML/SFA | Metal Lath/Steel Framing Association (See SSMA) |
| MPI | Master Painters Institute |
| MSS | Manufacturers Standardization Society of The Valve and Fittings Industry Inc. |
| NAAMM | National Association of Architectural Metal Manufacturers |
| NAAMM | North American Association of Mirror Manufacturers (See GANA) |
| NACE | NACE International (National Association of Corrosion Engineers International) |
| NAIMA | North American Insulation Manufacturers Association (The) |
| NAMI | National Accreditation and Management Institute, Inc. |
| NBGQA | National Building Granite Quarries Association, Inc. |
| NCMA | National Concrete Masonry Association |
| NCPI | National Clay Pipe Institute |
| NCTA | National Cable & Telecommunications Association |
| NEBB | National Environmental Balancing Bureau |
| NECA | National Electrical Contractors Association |
| NeLMA | Northeastern Lumber Manufacturers' Association |
| NEMA | National Electrical Manufacturers Association |
| NETA | InterNational Electrical Testing Association |
| NFPA | National Fire Protection Association |
| NFRC | National Fenestration Rating Council |
| NGA | National Glass Association |

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| | |
|--------|---|
| NHLA | National Hardwood Lumber Association |
| NLGA | National Lumber Grades Authority |
| NOFMA | National Oak Flooring Manufacturers Association |
| NRCA | National Roofing Contractors Association |
| NRMCA | National Ready Mixed Concrete Association |
| NSA | National Stone Association (See NSSGA) |
| NSF | NSF International (National Sanitation Foundation International) |
| NSSGA | National Stone, Sand & Gravel Association (Formerly: NSA - National Stone Association) |
| NTMA | National Terrazzo and Mosaic Association, Inc. |
| NWWDA | National Wood Window and Door Association (See WDMA) |
| PCI | Precast/Prestressed Concrete Institute |
| PDCA | Painting and Decorating Contractors of America |
| PDI | Plumbing & Drainage Institute |
| PGI | PVC Geomembrane Institute |
| RCSC | Research Council on Structural Connections |
| RFCI | Resilient Floor Covering Institute |
| RIS | Redwood Inspection Service |
| SAE | SAE International |
| SDI | Steel Deck Institute |
| SDI | Steel Door Institute |
| SEFA | Scientific Equipment and Furniture Association |
| SGCC | Safety Glazing Certification Council |
| SIGMA | Sealed Insulating Glass Manufacturers Association (See IGMA) |
| SJI | Steel Joist Institute |
| SMA | Screen Manufacturers Association |
| SMACNA | Sheet Metal and Air Conditioning Contractors' National Association |
| SPFA | Spray Polyurethane Foam Alliance |

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(Formerly: SPI/SPFD - The Society of the Plastics Industry, Inc.;
Spray Polyurethane Foam Division)

| | |
|----------|--|
| SPIB | Southern Pine Inspection Bureau (The) |
| SPI/SPFD | Society of the Plastics Industry (The) Spray Polyurethane Foam Division (See SPFA) |
| SPRI | SPRI (Single Ply Roofing Institute) |
| SSINA | Specialty Steel Industry of North America |
| SSMA | Steel Stud Manufacturers Association (Formerly: ML/SFA - Metal Lath/Steel Framing Association) |
| SSPC | SSPC: The Society for Protective Coatings |
| STI | Steel Tank Institute |
| SWI | Steel Window Institute |
| SWRI | Sealant, Waterproofing, and Restoration Institute |
| TCA | Tile Council of America, Inc. |
| TIA/EIA | Telecommunications Industry Association/Electronic Industries Alliance |
| TPI | Truss Plate Institute |
| TPI | Turfgrass Producers International |
| UL | Underwriters Laboratories Inc. |
| UNI | Uni-Bell PVC Pipe Association |
| USITT | United States Institute for Theatre Technology, Inc. |
| WASTECH | Waste Equipment Technology Association |
| WCLIB | West Coast Lumber Inspection Bureau |
| WCMA | Window Covering Manufacturers Association (See WCSC) |
| WCSC | Window Covering Safety Council (Formerly: WCMA - Window Covering Manufacturers Association) |
| WDMA | Window & Door Manufacturers Association (Formerly: NWWDA - National Wood Window and Door Association) |
| WIC | Woodwork Institute of California |
| WMMPA | Wood Moulding & Millwork Producers Association |
| WWPA | Western Wood Products Association |

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- C. Code Agencies: Where abbreviations and acronyms are used in Specifications or other Contract Documents, they shall mean the recognized name of the entities in the following list.

| | |
|-------|---|
| BOCA | BOCA International, Inc. |
| CABO | Council of American Building Officials (See ICC) |
| IAPMO | International Association of Plumbing and Mechanical Officials (The) |
| ICBO | International Conference of Building Officials |
| ICC | International Code Council, Inc. (Formerly: CABO - Council of American Building Officials) |
| SBCCI | Southern Building Code Congress International, Inc. |

- D. Federal Government Agencies: Where abbreviations and acronyms are used in Specifications or other Contract Documents, they shall mean the recognized name of the entities in the following list.

| | |
|-------|---|
| CE | Army Corps of Engineers |
| CPSC | Consumer Product Safety Commission |
| DOC | Department of Commerce |
| EPA | Environmental Protection Agency |
| FAA | Federal Aviation Administration |
| FDA | Food and Drug Administration |
| GSA | General Services Administration |
| HUD | Department of Housing and Urban Development |
| LBL | Lawrence Berkeley Laboratory (See LBNL) |
| LBNL | Lawrence Berkeley National Laboratory |
| NCHRP | National Cooperative Highway Research Program (See TRB) |
| NIST | National Institute of Standards and Technology |
| OSHA | Occupational Safety & Health Administration |
| PBS | Public Building Service (See GSA) |
| RUS | Rural Utilities Service (See USDA) |

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| | |
|------|-------------------------------|
| TRB | Transportation Research Board |
| USDA | Department of Agriculture |
| USPS | Postal Service |

- E. State Government Agencies: Where abbreviations and acronyms are used in Specifications or other Contract Documents, they shall mean the recognized name of the entities in the following list.

| | |
|-------|--|
| CAPUC | (See CPUC) |
| CBHF | State of California, Department of Consumer Affairs Bureau of Home Furnishings and Thermal Insulation |
| CPUC | California Public Utilities Commission |
| TFS | Texas Forest Service Forest Products Laboratory |

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 01420

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**CITY OF GREENVILLE
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SECTION 01500 - TEMPORARY FACILITIES AND CONTROLS

PART 1 - GENERAL

1.1 SUMMARY

- A. This Section includes requirements for temporary facilities and controls, including temporary utilities, support facilities, and security and protection facilities.

1.2 USE CHARGES

- A. General: All temporary facilities shall be provided by contractor for General Work. Cost and use charges for all temporary facilities are not chargeable to Owner or Architect and shall be included in the Contract Sum for the General Contractor's work. Allow other entities to use temporary services and facilities without cost, including, but not limited to, other prime contractors, Owner's construction forces, Architect, testing and inspecting agencies, and personnel of authorities having jurisdiction.

1.3 QUALITY ASSURANCE

- A. Standards: Comply with ANSI A10.6, NECA's "Temporary Electrical Facilities," and NFPA 241.
 - 1. Electric Service: Comply with NECA, NEMA, and UL standards and regulations for temporary electric service. Install service to comply with NFPA 70.
- B. Tests and Inspections: Arrange for authorities having jurisdiction to test and inspect each temporary utility before use. Obtain required certifications and permits.

1.4 PROJECT CONDITIONS

- A. Temporary Utilities: At earliest feasible time, when acceptable to Owner, change over from use of temporary service to use of permanent service.
 - 1. Temporary Use of Permanent Facilities: Installer of each permanent service shall assume responsibility for operation, maintenance, and protection of each permanent service during its use as a construction facility before Owner's acceptance, regardless of previously assigned responsibilities.
- B. Conditions of Use: The following conditions apply to use of temporary services and facilities by all parties engaged in the Work:
 - 1. Keep temporary services and facilities clean and neat.
 - 2. Relocate temporary services and facilities as required by progress of the Work.

PART 2 - PRODUCTS

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2.1 MATERIALS

- A. General: Provide new materials. Undamaged, previously used materials in serviceable condition may be used if approved by Architect. Provide materials suitable for use intended.

2.2 EQUIPMENT

- A. Field Offices: Mobile units with lockable entrances, operable windows, and serviceable finishes; heated and air conditioned; on foundations adequate for normal loading.
- B. Fire Extinguishers: Hand carried, portable, UL rated. Provide class and extinguishing agent as indicated or a combination of extinguishers of NFPA-recommended classes for exposures.
 - 1. Comply with NFPA 10 and NFPA 241 for classification, extinguishing agent, and size required by location and class of fire exposure.
- C. Self-Contained Toilet Units: Single-occupant units of chemical, aerated recirculation, or combustion type; vented; fully enclosed with a glass-fiber-reinforced polyester shell or similar nonabsorbent material.
- D. Drinking-Water Fixtures: Containerized, tap-dispenser, bottled-water, drinking-water units, including paper cup supply.
- E. Power Distribution System Circuits: Where permitted and overhead and exposed for surveillance, wiring circuits, not exceeding 125-V ac, 20-A rating, and lighting circuits may be nonmetallic sheathed cable.

PART 3 - EXECUTION

3.1 INSTALLATION, GENERAL

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

3.2 TEMPORARY UTILITY INSTALLATION

Sanitary Facilities: Provide temporary toilets, wash facilities, and drinking-water fixtures. Comply with regulations and health codes for type, number, location, operation, and maintenance of fixtures and facilities.

- 1. Disposable Supplies: Provide toilet tissue, paper towels, paper cups, and similar disposable materials for each facility. Maintain adequate supply. Provide covered waste containers for disposal of used material.
- 2. Toilets: Install self-contained toilet units. Shield toilets to ensure privacy.
- 3. Drinking-Water Facilities: Provide bottled-water, drinking-water units.

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3.3 SUPPORT FACILITIES INSTALLATION

- A. General: Comply with the following:
 - 1. Locate field offices, storage sheds, sanitary facilities, and other temporary construction and support facilities for easy access.
 - 2. Maintain support facilities until near Substantial Completion. Remove before Substantial Completion.
- B. Waste Disposal Facilities: Provide waste-collection containers in sizes adequate to handle waste from construction operations. Containerize and clearly label hazardous, dangerous, or unsanitary waste materials separately from other waste. Comply with Division 1 Section "Execution Requirements " for progress cleaning requirements.
 - 1. If required by authorities having jurisdiction, provide separate containers, clearly labeled, for each type of waste material to be deposited.
- C. Lifts and Hoists: Provide facilities for hoisting materials and personnel. Truck cranes and similar devices used for hoisting materials are considered "tools and equipment" and not temporary facilities.

3.4 SECURITY AND PROTECTION FACILITIES INSTALLATION

- A. Environmental Protection: Provide protection, operate temporary facilities, and conduct construction in ways and by methods that comply with environmental regulations and that minimize possible air, waterway, and subsoil contamination or pollution or other undesirable effects. Avoid using tools and equipment that produce harmful noise. Restrict use of noisemaking tools and equipment to hours that will minimize complaints from persons or firms near Project site.
- B. Tree and Plant Protection: Install temporary fencing or other measures as needed to protect existing trees and landscaping from damage.
- C. Barricades, Warning Signs, and Lights: Comply with standards and code requirements for erecting structurally adequate barricades. Paint with appropriate colors, graphics, and warning signs to inform personnel and public of possible hazard. Where appropriate and needed, provide lighting, including flashing red or amber lights.

3.5 OPERATION, TERMINATION, AND REMOVAL

- A. Supervision: Enforce strict discipline in use of temporary facilities. To minimize waste and abuse, limit availability of temporary facilities to essential and intended uses.
- B. Maintenance: Maintain facilities in good operating condition until removal. Protect from damage caused by freezing temperatures and similar elements.

END OF SECTION 01500

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SECTION 01600 - PRODUCT REQUIREMENTS

PART 1 - GENERAL

1.1 SUMMARY

- A. This Section includes administrative and procedural requirements for selecting products for use in Project; product delivery, storage, and handling; manufacturers' standard warranties on products; special warranties; product substitutions; and comparable products.
- B. See Division 1 Section "Closeout Procedures" for submitting warranties for contract closeout.
- C. See Divisions 2 through 16 Sections for specific requirements for warranties on products and installations specified to be warranted.

1.2 DEFINITIONS

- A. Products: Items purchased for incorporating into the Work, whether purchased for Project or taken from previously purchased stock. The term "product" includes the terms "material," "equipment," "system," and terms of similar intent.
 - 1. Named Products: Items identified by manufacturer's product name, including make or model number or other designation, shown or listed in manufacturer's published product literature, that is current as of date of the Contract Documents.
 - 2. Comparable Product: Product that is demonstrated and approved through submittal process, or where indicated as a product substitution, to have the indicated qualities related to type, function, dimension, in-service performance, physical properties, appearance, and other characteristics that equal or exceed those of specified product.
- B. Substitutions: Changes in products, materials, equipment, and methods of construction from those required by the Contract Documents and proposed by Contractor.
- C. Basis-of-Design Product Specification: Where a specific manufacturer's product is named and accompanied by the words "basis of design," including make or model number or other designation, to establish the significant qualities related to type, function, dimension, in-service performance, physical properties, appearance, and other characteristics for purposes of evaluating comparable products of other named manufacturers.
- D. Manufacturer's Warranty: Preprinted written warranty published by individual manufacturer for a particular product and specifically endorsed by manufacturer to Owner.
- E. Special Warranty: Written warranty required by or incorporated into the Contract Documents, either to extend time limit provided by manufacturer's warranty or to provide more rights for Owner.

1.3 SUBMITTALS

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- A. Substitution Requests: Submit three copies of each request for consideration. Identify product or fabrication or installation method to be replaced. Include Specification Section number and title and Drawing numbers and titles.
1. Substitution Request Form: Use CSI Form 131 A .
 2. Documentation: Show compliance with requirements for substitutions and the following, as applicable:
 - a. Statement indicating why specified material or product cannot be provided.
 - b. Coordination information, including a list of changes or modifications needed to other parts of the Work and to construction performed by Owner and separate contractors, that will be necessary to accommodate proposed substitution.
 - c. Detailed comparison of significant qualities of proposed substitution with those of the Work specified. Significant qualities may include attributes such as performance, weight, size, durability, visual effect, and specific features and requirements indicated.
 - d. Product Data, including drawings and descriptions of products and fabrication and installation procedures.
 - e. Samples, where applicable or requested.
 - f. List of similar installations for completed projects with project names and addresses and names and addresses of architects and owners.
 - g. Material test reports from a qualified testing agency indicating and interpreting test results for compliance with requirements indicated.
 - h. Research/evaluation reports evidencing compliance with building code in effect for Project, from a model code organization acceptable to authorities having jurisdiction.
 - i. Detailed comparison of Contractor's Construction Schedule using proposed substitution with products specified for the Work, including effect on the overall Contract Time.
 - j. Cost information, including a proposal of change, if any, in the Contract Sum.
 - k. Contractor's certification that proposed substitution complies with requirements in the Contract Documents and is appropriate for applications indicated.
 - l. Contractor's waiver of rights to additional payment or time that may subsequently become necessary because of failure of proposed substitution to produce indicated results.
 3. Architect's Action: If necessary, Architect will request additional information or documentation for evaluation within one week of receipt of a request for substitution. Architect will notify Contractor of acceptance or rejection of proposed substitution within 21 days of receipt of request, or 7 days of receipt of additional information or documentation, whichever is later.
 - a. Form of Acceptance: Change Order.
 - b. Use product specified if Architect cannot make a decision on use of a proposed substitution within time allocated.
- B. Basis-of-Design Product Specification Submittal: Comply with requirements in Division 1 Section "Submittal Procedures." Show compliance with requirements.

1.4 QUALITY ASSURANCE

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

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1.5 PRODUCT DELIVERY, STORAGE, AND HANDLING

- A. Deliver, store, and handle products using means and methods that will prevent damage, deterioration, and loss, including theft. Comply with manufacturer's written instructions.
1. Schedule delivery to minimize long-term storage at Project site and to prevent overcrowding of construction spaces.
 2. Coordinate delivery with installation time to ensure minimum holding time for items that are flammable, hazardous, easily damaged, or sensitive to deterioration, theft, and other losses.
 3. Deliver products to Project site in an undamaged condition in manufacturer's original sealed container or other packaging system, complete with labels and instructions for handling, storing, unpacking, protecting, and installing.
 4. Inspect products on delivery to ensure compliance with the Contract Documents and to ensure that products are undamaged and properly protected.
 5. Store products to allow for inspection and measurement of quantity or counting of units.
 6. Store materials in a manner that will not endanger Project structure.
 7. Store products that are subject to damage by the elements, under cover in a weathertight enclosure above ground, with ventilation adequate to prevent condensation.
 8. Comply with product manufacturer's written instructions for temperature, humidity, ventilation, and weather-protection requirements for storage.
 9. Protect stored products from damage.

1.6 PRODUCT WARRANTIES

- A. Warranties specified in other Sections shall be in addition to, and run concurrent with, other warranties required by the Contract Documents. Manufacturer's disclaimers and limitations on product warranties do not relieve Contractor of obligations under requirements of the Contract Documents.
- B. Special Warranties: Prepare a written document that contains appropriate terms and identification, ready for execution. Submit a draft for approval before final execution.
1. Manufacturer's Standard Form: Modified to include Project-specific information and properly executed.
 2. Refer to Divisions 2 through 16 Sections for specific content requirements and particular requirements for submitting special warranties.
- C. Submittal Time: Comply with requirements in Division 1 Section "Closeout Procedures."

PART 2 - PRODUCTS

2.1 PRODUCT OPTIONS

- A. General Product Requirements: Provide products that comply with the Contract Documents, that are undamaged and, unless otherwise indicated, that are new at time of installation.
1. Provide products complete with accessories, trim, finish, fasteners, and other items needed for a complete installation and indicated use and effect.

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2. Standard Products: If available, and unless custom products or nonstandard options are specified, provide standard products of types that have been produced and used successfully in similar situations on other projects.
3. Owner reserves the right to limit selection to products with warranties not in conflict with requirements of the Contract Documents.
4. Where products are accompanied by the term "as selected," Architect will make selection.
5. Where products are accompanied by the term "match sample," sample to be matched is Architect's.
6. Descriptive, performance, and reference standard requirements in the Specifications establish "salient characteristics" of products.

2.2 PRODUCT SUBSTITUTIONS

- A. See Requirements of specification section 01631

PART 3 - EXECUTION (Not Used)

END OF SECTION 01600

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SECTION 01631 - PRODUCT SUBSTITUTIONS

PART 1 - GENERAL

1.1 DESCRIPTION OF WORK

A. Work Specified This Section:

1. This Section specifies administrative and procedural requirements for handling requests as a substitution request made after the Notice to Proceed or award of the Contract as a CPR.
2. All requests for substitution shall be made no later than 15 days after Notice to Proceed in order to be considered.

1.2 SUBMITTALS

A. Substitution Request Submittal:

1. Submit 1 digital copy of each request for substitution for consideration.
2. Submit each request on the attached form and in accordance with procedures required for Change Proposal Requests (CPR). See Section 01250 for additional information.
3. Identify the product, or the fabrication or installation method to be replaced in each request. Include related Specification Section and Drawing numbers.
4. Provide complete documentation showing compliance with the requirements for substitutions, and the following information, as appropriate:
 - a) Original copies of Product Data, including Drawings and descriptions of products, fabrication and installation procedures.
 - b) Samples, where applicable or requested.
 - c) A detailed point by point comparison of the proposed substitution and the specified product detailing the significant qualities of both products.
 - 1) Significant qualities may include elements such as size, weight, durability, performance and visual effect.
 - d) Coordination information, including a list of changes or modifications needed to other parts of the Work and to construction performed by the Owner and separate Contractors that will become necessary to accommodate the proposed substitution.
 - e) A statement indicating the substitutions effect on the Contractor's Construction Schedule.
 - f) Cost information, including a proposal of the net deduct change in the Contract Sum.
 - g) Certification by the Contractor that the substitution proposed is equal-to or better in every significant respect to that required by the Contract Documents, and that the product/assembly will perform adequately in the application indicated.
 - 1) Include the Contractor's waiver of rights to additional payment or time that may subsequently become necessary because of the failure of the substitution to perform adequately.

B. Architect's Action:

1. After receipt of the request for substitution, the Architect may request additional information or documentation necessary for evaluation of the request.
2. If a decision on use of a proposed substitute is not made or obtained within sufficient time to have no adverse impact on the construction schedule, the Contractor shall use the product specified in the Contract Documents.

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PART 2 - PRODUCTS (NOT APPLICABLE)

PART 3 - EXECUTION

3.1 SUBSTITUTIONS:

A. Conditions:

1. No substitution will be considered unless such request include the name of the material or equipment for which it is to be substituted and a complete description of the proposed substitution including drawings, performance and test data, and other information necessary for a complete comparison with the specified products or materials and an evaluation of the proposed products or materials.
 2. A statement setting forth changes in other materials, equipment or other portions of the Work including changes in the work of other contracts that incorporation of the proposed substitution would require shall be included.
 3. Savings or Credit to Owner for accepting substitution
 4. The burden of proof of the merit of the proposed substitution is upon the proposer.
 5. In addition to the requirements in the Supplemental General Conditions, the following items will apply:
 - a) The substitution is in compliance with subsequent interpretations of code or insurance requirements.
 - b) The manufacturer or fabricator shall certify or guarantee the specified product as required by the Contract Documents.
 - c) Product shall perform properly and fit in the designated space.
- B. The Contractor shall bear all expenses resulting from substitutions including the cost of work in general, structural, plumbing, mechanical and electrical trades required due to the substitution and the cost of any Architect's services made necessary by the substitution.
- C. The Architect's decision of approval or disapproval of a proposed substitution shall be final.

3.2 SUBMITTAL FORMS:

- A. All proposed substitutions shall use the following form.

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**SUBSTITUTION
REQUEST**

Project: _____ Substitution Request No. _____

_____ CPR No. (After Bid) _____
_____ From: _____
To: _____ Date: _____
_____ A/E Project No. _____
Re: _____ Contract For: _____

Specification Title/or Drawing Sheet: _____
Section No.: _____ Page No.: _____ Article/Paragraph: _____

Proposed Substitution: _____
Manufacturer: _____ Address: _____ Phone #: _____
Trade Name: _____ Model #: _____
Installer: _____ Address: _____ Phone #: _____

History: New Product: 2 -5 years old 5-10 years old More than ten years old

Briefly explain differences between proposed substitution and specified product _____

Point-by-Point comparative data attached - REQUIRED BY A/E

Reason for not providing specified item: _____

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Similar Installation:

Project: _____ Architect: _____

Address: _____ Owner: _____

Telephone: _____ Owner Representative: _____

Date Installed: _____

Proposed substitution affects other parts of Work: No Yes; explain _____

Savings or Credit to Owner for accepting substitution: _____ (\$ _____)

(MUST BE FILLED OUT TO RECEIVE REVIEW.)

Proposed substitution changes Contract Time: No Yes; Add/Deduct _____ days.

Supporting Data Attached:

Product Data Drawings Tests Reports Samples _____

Fire Tests Acoustical Tests

ASTM Tests UL, FM or WHI listed: provide copy of test reports.

Undersigned certifies:

- Proposed substitution has been fully investigated and determined to be equal or superior in all respects to specified product.
- Same or better warranty will be furnished for proposed substitution as for specified product.
- Same or better maintenance service and source of replacement parts, as applicable is available.
- Proposed substitution will not affect or delay Progress Schedule.
- Cost data as stated above is complete. Contractor (s) claims for additional costs related to accepted substitution, which may subsequently become apparent are to be waived.
- Proposed substitution does not affect dimensions and functional clearances.
- Payment will be made for A/E changes to building design, including architectural or engineering design, detailing, and construction costs caused by the requested substitution.
- Coordination, installation, and changes in the Work as necessary for accepted substitution will be complete in all respects.

Submitted By: _____

Signature: _____

Firm: _____

Address: _____

Telephone: _____ Approved By: _____

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General Contractor

Date

Attachments: _____

ARCHITECT'S REVIEW AND ACTION

Substitution approved - Make submittals in accordance with Division One.

Substitution approved as noted - Make submittals in accordance with Division One.

Substitution rejected - Use specified materials.

Signed by: _____ Date: _____

Additional Comments Contractor Subcontractor Supplier Manufacturer A/E _____

END OF SECTION 01631

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SECTION 01700 - EXECUTION REQUIREMENTS

PART 1 - GENERAL

1.1 SUMMARY

- A. This Section includes general procedural requirements governing execution of the Work including, but not limited to, the following:
 - 1. Construction layout.
 - 2. Field engineering and surveying.
 - 3. General installation of products.
 - 4. Progress cleaning.
 - 5. Starting and adjusting.
 - 6. Protection of installed construction.
 - 7. Correction of the Work.

- B. See Division 1 Section "Closeout Procedures" for submitting final property survey with Project Record Documents, recording of Owner-accepted deviations from indicated lines and levels, and final cleaning.

1.2 QUALITY ASSURANCE

- A. Land Surveyor Qualifications: A professional land surveyor who is legally qualified to practice in jurisdiction where Project is located and who is experienced in providing land-surveying services of the kind indicated.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Existing Conditions: The existence and location of site improvements, utilities, and other construction indicated as existing are not guaranteed. Before beginning work, investigate and verify the existence and location of mechanical and electrical systems and other construction affecting the Work.
 - 1. Before construction, verify the location and points of connection of utility services.

- B. Existing Utilities: The existence and location of underground and other utilities and construction indicated as existing are not guaranteed. Before beginning site work, investigate and verify the existence and location of underground utilities and other construction affecting the Work.
 - 1. Furnish location data for work related to Project that must be performed by public utilities serving Project site.

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- C. Acceptance of Conditions: Examine substrates, areas, and conditions, with Installer or Applicator present where indicated, for compliance with requirements for installation tolerances and other conditions affecting performance. Record observations.
 - 1. Verify compatibility with and suitability of substrates, including compatibility with existing finishes or primers.
 - 2. Examine roughing-in for mechanical and electrical systems to verify actual locations of connections before equipment and fixture installation.
 - 3. Proceed with installation only after unsatisfactory conditions have been corrected. Proceeding with the Work indicates acceptance of surfaces and conditions.

3.2 PREPARATION

- A. Existing Utility Information: Furnish information to local utility that is necessary to adjust, move, or relocate existing utility structures, utility poles, lines, services, or other utility appurtenances located in or affected by construction. Coordinate with authorities having jurisdiction.
- B. Existing Utility Interruptions: Do not interrupt utilities serving facilities occupied by Owner or others unless permitted under the following conditions and then only after arranging to provide temporary utility services according to requirements indicated:
 - 1. Notify Owner not less than 7 days in advance of proposed utility interruptions.
 - 2. Do not proceed with utility interruptions without Owner's written permission.
- C. Field Measurements: Take field measurements as required to fit the Work properly. Recheck measurements before installing each product. Where portions of the Work are indicated to fit to other construction, verify dimensions of other construction by field measurements before fabrication. Coordinate fabrication schedule with construction progress to avoid delaying the Work.
- D. Space Requirements: Verify space requirements and dimensions of items shown diagrammatically on Drawings.
- E. Review of Contract Documents and Field Conditions: Immediately on discovery of the need for clarification of the Contract Documents, submit a request for information to Architect. Include a detailed description of problem encountered, together with recommendations for changing the Contract Documents.

3.3 INSTALLATION

- A. General: Locate the Work and components of the Work accurately, in correct alignment and elevation, as indicated.
- B. Comply with manufacturer's written instructions and recommendations for installing products in applications indicated.
- C. Install products at the time and under conditions that will ensure the best possible results. Maintain conditions required for product performance until Substantial Completion.
- D. Conduct construction operations so no part of the Work is subjected to damaging operations or loading in excess of that expected during normal conditions of occupancy.

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- E. Anchors and Fasteners: Provide anchors and fasteners as required to anchor each component securely in place, accurately located and aligned with other portions of the Work.
 - 1. Mounting Heights: Where mounting heights are not indicated, mount components at heights directed by Architect.
 - 2. Allow for building movement, including thermal expansion and contraction.
- F. Joints: Make joints of uniform width. Where joint locations in exposed work are not indicated, arrange joints for the best visual effect. Fit exposed connections together to form hairline joints.
- G. Hazardous Materials: Use products, cleaners, and installation materials that are not considered hazardous.

3.4 PROTECTION OF INSTALLED CONSTRUCTION

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

3.5 CORRECTION OF THE WORK

- A. Repair or remove and replace defective construction. Restore damaged substrates and finishes. Comply with requirements in Division 1 Section "Cutting and Patching."
 - 1. Repairing includes replacing defective parts, refinishing damaged surfaces, touching up with matching materials, and properly adjusting operating equipment.
- B. Restore permanent facilities used during construction to their specified condition.
- C. Remove and replace damaged surfaces that are exposed to view if surfaces cannot be repaired without visible evidence of repair.
- D. Repair components that do not operate properly. Remove and replace operating components that cannot be repaired.
- E. Remove and replace chipped, scratched, and broken glass or reflective surfaces.

END OF SECTION 01700

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SECTION 01731 - CUTTING AND PATCHING

PART 1 - GENERAL

1.1 SUMMARY

- A. This Section includes procedural requirements for cutting and patching.
- B. See Divisions 2 through 16 Sections for specific requirements and limitations applicable to cutting and patching individual parts of the Work.
- C. Requirements in this Section apply to mechanical and electrical installations. See Divisions 15 and 16 Sections for other requirements and limitations applicable to cutting and patching mechanical and electrical installations.

1.2 SUBMITTALS

1.3 QUALITY ASSURANCE

- A. Structural Elements: Do not cut and patch structural elements.
- B. Operational Elements: Do not cut and patch operating elements and related components in a manner that results in reducing their capacity to perform as intended or that results in increased maintenance or decreased operational life or safety.
- C. Visual Requirements: Do not cut and patch construction in a manner that results in visual evidence of cutting and patching. Do not cut and patch construction exposed on the exterior or in occupied spaces in a manner that would, in Architect's opinion, reduce the building's aesthetic qualities. Remove and replace construction that has been cut and patched in a visually unsatisfactory manner.

1.4 WARRANTY

- A. Existing Warranties: Remove, replace, patch, and repair materials and surfaces cut or damaged during cutting and patching operations, by methods and with materials so as not to void existing warranties.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. General: Comply with requirements specified in other Sections of these Specifications.
- B. Existing Materials: Use materials identical to existing materials. For exposed surfaces, use materials that visually match existing adjacent surfaces to the fullest extent possible.

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1. If identical materials are unavailable or cannot be used, use materials that, when installed, will match the visual and functional performance of existing materials.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine surfaces to be cut and patched and conditions under which cutting and patching are to be performed.
 1. Compatibility: Before patching, verify compatibility with and suitability of substrates, including compatibility with existing finishes or primers.
 2. Proceed with installation only after unsafe or unsatisfactory conditions have been corrected.

3.2 PREPARATION

- A. Temporary Support: Provide temporary support of Work to be cut.
- B. Protection: Protect existing construction during cutting and patching to prevent damage. Provide protection from adverse weather conditions for portions of Project that might be exposed during cutting and patching operations.
- C. Adjoining Areas: Avoid interference with use of adjoining areas or interruption of free passage to adjoining areas.
- D. Existing Services: Where existing services are required to be removed, relocated, or abandoned, bypass such services before cutting to avoid interruption of services to occupied areas.

3.3 PERFORMANCE

- A. General: Employ skilled workers to perform cutting and patching. Proceed with cutting and patching at the earliest feasible time, and complete without delay.
 1. Cut existing construction to provide for installation of other components or performance of other construction, and subsequently patch as required to restore surfaces to their original condition.
- B. Cutting: Cut existing construction by sawing, drilling, breaking, chipping, grinding, and similar operations, including excavation, using methods least likely to damage elements retained or adjoining construction. If possible, review proposed procedures with original Installer; comply with original Installer's written recommendations.
 1. In general, use hand or small power tools designed for sawing and grinding, not hammering and chopping. Cut holes and slots as small as possible, neatly to size required, and with minimum disturbance of adjacent surfaces. Temporarily cover openings when not in use.
 2. Existing Finished Surfaces: Cut or drill from the exposed or finished side into concealed surfaces.

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3. Concrete: Cut using a cutting machine, such as an abrasive saw or a diamond-core drill.
 4. Proceed with patching after construction operations requiring cutting are complete.
- C. Patching: Patch construction by filling, repairing, refinishing, closing up, and similar operations following performance of other Work. Patch with durable seams that are as invisible as possible. Provide materials and comply with installation requirements specified in other Sections of these Specifications.
1. Inspection: Where feasible, test and inspect patched areas after completion to demonstrate integrity of installation.
 2. Exposed Finishes: Restore exposed finishes of patched areas and extend finish restoration into retained adjoining construction in a manner that will eliminate evidence of patching and refinishing.
 3. Exterior Building Enclosure: Patch components in a manner that restores enclosure to a weathertight condition.

END OF SECTION 01731

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SECTION 01732 - SELECTIVE DEMOLITION

PART 1 - GENERAL

1.1 SUMMARY

- A. This Section includes the following:
 - 1. Demolition and removal of selected portions of building or structure.

1.2 DEFINITIONS

- A. Remove: Detach items from existing construction and legally dispose of them off-site, unless indicated to be removed and salvaged or removed and reinstalled.
- B. Existing to Remain: Existing items of construction that are not to be removed and that are not otherwise indicated to be removed, removed and salvaged, or removed and reinstalled.

1.3 QUALITY ASSURANCE

Regulatory Requirements: Comply with governing EPA notification regulations before beginning selective demolition. Comply with hauling and disposal regulations of authorities having jurisdiction.

- A. Standards: Comply with ANSI A10.6 and NFPA 241.

1.4 PROJECT CONDITIONS

- A. Notify Architect of discrepancies between existing conditions and Drawings before proceeding with selective demolition.
- B. Hazardous Materials: It is unknown whether hazardous materials will be encountered in the Work.
 - 1. If materials suspected of containing hazardous materials are encountered, do not disturb; immediately notify Architect and Owner. Owner will remove hazardous materials under a separate contract.
- C. Hazardous Materials: The owner will identify and remove all hazardous materials requiring removal.
- D. Storage or sale of removed items or materials on-site is not permitted.
- E. Utility Service: Maintain existing utilities that are incorporated in new work and protect them against damage during selective demolition operations.

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1.5 WARRANTY

- A. Existing Warranties: Remove, replace, patch, and repair materials and surfaces cut or damaged during selective demolition, by methods and with materials so as not to void existing warranties.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Verify that utilities have been disconnected and capped.
- B. Survey existing conditions and correlate with requirements indicated to determine extent of selective demolition required.
- C. Inventory and record the condition of items to be removed and reinstalled and items to be removed and salvaged.
- D. When unanticipated mechanical, electrical, or structural elements that conflict with intended function or design are encountered, investigate and measure the nature and extent of conflict. Promptly submit a written report to Architect.
- E. Perform surveys as the Work progresses to detect hazards resulting from selective demolition activities.

3.2 PREPARATION

- A. 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.
 - 1. Comply with requirements for access and protection specified in Division 1 Section "Temporary Facilities and Controls."
- B. Temporary Facilities: Provide temporary barricades and other protection required to prevent injury to people and damage to adjacent buildings and facilities to remain.
- C. Temporary Shoring: Provide and maintain shoring, bracing, and structural supports as required to preserve stability and prevent movement, settlement, or collapse of construction and finishes to remain, and to prevent unexpected or uncontrolled movement or collapse of construction being demolished.

3.3 SELECTIVE DEMOLITION

- A. General: Demolish and remove existing construction only to the extent required by new construction and as indicated. Use methods required to complete the Work within limitations of governing regulations and as follows:

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1. Neatly cut openings and holes plumb, square, and true to dimensions required. Use cutting methods least likely to damage construction to remain or adjoining construction. Use hand tools or small power tools designed for sawing or grinding, not hammering and chopping, to minimize disturbance of adjacent surfaces. Temporarily cover openings to remain.
 2. Cut or drill from the exposed or finished side into concealed surfaces to avoid marring existing finished surfaces.
 3. Do not use cutting torches until work area is cleared of flammable materials. At concealed spaces, such as duct and pipe interiors, verify condition and contents of hidden space before starting flame-cutting operations. Maintain fire watch and portable fire-suppression devices during flame-cutting operations.
 4. Locate selective demolition equipment and remove debris and materials so as not to impose excessive loads on supporting walls, floors, or framing.
 5. Dispose of demolished items and materials promptly.
- B. Reuse of Building Elements: Do not demolish building elements beyond what is indicated on Drawings without Architect's approval.
- C. Existing Items to Remain: Protect construction indicated to remain against damage and soiling during selective demolition. When permitted by Architect, items may be removed to a suitable, protected storage location during selective demolition and cleaned and reinstalled in their original locations after selective demolition operations are complete.

3.4 DISPOSAL OF DEMOLISHED MATERIALS

- A. General: Except for items or materials indicated to be reused, salvaged, reinstalled, or otherwise indicated to remain Owner's property, remove demolished materials from Project site and legally dispose of them in an EPA-approved landfill.
1. Comply with requirements specified in Division 1 Section "Construction Waste Management."
- B. Burning: Do not burn demolished materials.
- C. Disposal: Transport demolished materials off Owner's property and legally dispose of them.

3.5 CLEANING

- A. Clean adjacent structures and improvements of dust, dirt, and debris caused by selective demolition operations. Return adjacent areas to condition existing before selective demolition operations began.

END OF SECTION 01732

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SECTION 01770 - CLOSEOUT PROCEDURES

PART 1 - GENERAL

1.1 SUMMARY

- A. This Section includes administrative and procedural requirements for contract closeout, including, but not limited to, the following:
 - 1. Inspection procedures.
 - 2. Project Record Documents.
 - 3. Operation and maintenance manuals.
 - 4. Warranties.
 - 5. Instruction of Owner's personnel.
 - 6. Final cleaning.
- B. See Division 1 Section "Payment Procedures" for requirements for Applications for Payment for Substantial and Final Completion.
- C. See Division 1 Section "Construction Progress Documentation" for submitting Final Completion construction photographs and negatives.
- D. See Divisions 2 through 16 Sections for specific closeout and special cleaning requirements for products of those Sections.

1.2 SUBSTANTIAL COMPLETION

- A. Preliminary Procedures: Before requesting inspection for determining date of Substantial Completion, complete the following. List items below that are incomplete in request.
 - 1. Prepare a list of items to be completed and corrected (punch list), the value of items on the list, and reasons why the Work is not complete.
 - 2. Advise Owner of pending insurance changeover requirements.
 - 3. Submit specific warranties, workmanship bonds, maintenance service agreements, final certifications, and similar documents.
 - 4. Obtain and submit releases permitting Owner unrestricted use of the Work and access to services and utilities. Include occupancy permits, operating certificates, and similar releases.
 - 5. Prepare and submit Project Record Documents, operation and maintenance manuals, Final Completion construction photographs, damage or settlement surveys, property surveys, and similar final record information.
 - 6. Deliver tools, spare parts, extra materials, and similar items to location designated by Owner. Label with manufacturer's name and model number where applicable.
 - 7. Make final changeover of permanent locks and deliver keys to Owner. Advise Owner's personnel of changeover in security provisions.
 - 8. Complete startup testing of systems.
 - 9. Submit test/adjust/balance records.
 - 10. Terminate and remove temporary facilities from Project site, along with mockups, construction tools, and similar elements.
 - 11. Advise Owner of changeover in heat and other utilities.

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12. Submit changeover information related to Owner's occupancy, use, operation, and maintenance.
13. Complete final cleaning requirements, including touchup painting.
14. Touch up and otherwise repair and restore marred exposed finishes to eliminate visual defects.

B. Inspection: Submit a written request for inspection for Substantial Completion. On receipt of request, Architect will either proceed with inspection or notify Contractor of unfulfilled requirements. Architect will prepare the Certificate of Substantial Completion after inspection or will notify Contractor of items, either on Contractor's list or additional items identified by Architect, that must be completed or corrected before certificate will be issued.

1. Re-inspection: Request re-inspection when the Work identified in previous inspections as incomplete is completed or corrected.
2. Results of completed inspection will form the basis of requirements for Final Completion.

1.3 FINAL COMPLETION

A. Preliminary Procedures: Before requesting final inspection for determining date of Final Completion, complete the following:

1. Submit a final Application for Payment according to Division 1 Section "Payment Procedures."
2. Submit certified copy of Architect's Substantial Completion inspection list of items to be completed or corrected (punch list), endorsed and dated by Architect. The certified copy of the list shall state that each item has been completed or otherwise resolved for acceptance.
3. Submit evidence of final, continuing insurance coverage complying with insurance requirements.
4. Submit pest-control final inspection report and warranty.
5. Instruct Owner's personnel in operation, adjustment, and maintenance of products, equipment, and systems.

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

1. Re-inspection: Request re-inspection when the Work identified in previous inspections as incomplete is completed or corrected.

1.4 LIST OF INCOMPLETE ITEMS (PUNCH LIST)

A. Preparation: Submit one digital copy of list. Include name and identification of each space and area affected by construction operations for incomplete items and items needing correction including, if necessary, areas disturbed by Contractor that are outside the limits of construction.

1.5 PROJECT RECORD DOCUMENTS

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- A. General: Do not use Project Record Documents for construction purposes. Protect Project Record Documents from deterioration and loss. Provide access to Project Record Documents for Architect's reference during normal working hours.
- B. Record Drawings: Maintain and submit one set of blue- or black-line white prints of Contract Drawings and Shop Drawings.
 - 1. Mark Record Prints to show the actual installation where installation varies from that shown originally. Require individual or entity who obtained record data, whether individual or entity is Installer, subcontractor, or similar entity, to prepare the marked-up Record Prints.
 - a. Give particular attention to information on concealed elements that cannot be readily identified and recorded later.
 - b. Record data as soon as possible after obtaining it. Record and check the markup before enclosing concealed installations.
 - 2. Mark record sets with erasable, red-colored pencil. Use other colors to distinguish between changes for different categories of the Work at the same location.
 - 3. Note Construction Change Directive numbers, Change Order numbers, alternate numbers, and similar identification where applicable.
 - 4. Identify and date each Record Drawing; include the designation "PROJECT RECORD DRAWING" in a prominent location. Organize into manageable sets; bind each set with durable paper cover sheets. Include identification on cover sheets.
- C. Record Specifications: Submit one copy of Project's Specifications, including addenda and contract modifications. Mark copy to indicate the actual product installation where installation varies from that indicated in Specifications, addenda, and contract modifications.
 - 1. Give particular attention to information on concealed products and installations that cannot be readily identified and recorded later.
 - 2. Mark copy with the proprietary name and model number of products, materials, and equipment furnished, including substitutions and product options selected.
 - 3. Note related Change Orders and Record Drawings, where applicable.
- D. Miscellaneous Record Submittals: Assemble miscellaneous records required by other Specification Sections for miscellaneous record keeping and submittal in connection with actual performance of the Work. Bind or file miscellaneous records and identify each, ready for continued use and reference.

1.6 OPERATION AND MAINTENANCE MANUALS

- A. Assemble a complete set of operation and maintenance data indicating the operation and maintenance of each system, subsystem, and piece of equipment not part of a system. Include operation and maintenance data required in individual Specification Sections and as follows:
 - 1. Operation Data: Include emergency instructions and procedures, system and equipment descriptions, operating procedures, and sequence of operations.
 - 2. Maintenance Data: Include manufacturer's information, list of spare parts, maintenance procedures, maintenance and service schedules for preventive and routine maintenance, and copies of warranties and bonds.

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- B. Organize operation and maintenance manuals into digital files for each system or assembly and digitally submit to Architect with a transmittal describing contents.

1.7 WARRANTIES

- A. Submittal Time: Submit written warranties on request of Architect for designated portions of the Work where commencement of warranties other than date of Substantial Completion is indicated.
- B. Organize warranty documents into an orderly sequence based on the table of contents of the Project Manual and submit digital files of each warranty.

PART 2 - PRODUCTS

2.1 MATERIALS

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

PART 3 - EXECUTION

3.1 DEMONSTRATION AND TRAINING

- A. Instruction: Instruct Owner's personnel to maintain systems, and subsystems.
 - 1. Provide instructors experienced in operation and maintenance procedures.
 - 2. Provide instruction at mutually agreed-on times. For equipment that requires seasonal operation, provide similar instruction at the start of each season.
 - 3. Schedule training with Owner, through Architect, with at least 21 days' advance notice.
 - 4. Coordinate instructors, including providing notification of dates, times, length of instruction, and course content.

3.2 FINAL CLEANING

- A. General: Provide final cleaning. Conduct cleaning and waste-removal operations to comply with local laws and ordinances and Federal and local environmental and antipollution regulations.
- B. Cleaning: Employ experienced workers or professional cleaners for final cleaning. Clean each surface or unit to condition expected in an average commercial building cleaning and maintenance program. Comply with manufacturer's written instructions.

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1. Complete the following cleaning operations before requesting inspection for certification of Substantial Completion for entire Project or for a portion of Project:
 - a. Clean Project site, yard, and grounds, in areas disturbed by construction activities, including landscape development areas, of rubbish, waste material, litter, and other foreign substances.
 - b. Sweep paved areas broom clean. Remove petrochemical spills, stains, and other foreign deposits.
 - c. Rake grounds that are neither planted nor paved to a smooth, even-textured surface.
 - d. Remove tools, construction equipment, machinery, and surplus material from Project site.
 - e. Clean exposed exterior and interior hard-surfaced finishes to a dirt-free condition, free of stains, films, and similar foreign substances. Avoid disturbing natural weathering of exterior surfaces. Restore reflective surfaces to their original condition.
 - f. Remove debris and surface dust from limited access spaces, including roofs, plenums, shafts, trenches, equipment vaults, manholes, attics, and similar spaces.
 - g. Touch up and otherwise repair and restore marred, exposed finishes and surfaces. Replace finishes and surfaces that cannot be satisfactorily repaired or restored or that already show evidence of repair or restoration.
 - h. Leave Project clean

- C. Comply with safety standards for cleaning. Do not burn waste materials. Do not bury debris or excess materials on Owner's property. Do not discharge volatile, harmful, or dangerous materials into drainage systems. Remove waste materials from Project site and dispose of lawfully.

END OF SECTION 01770

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SECTION 01788 - WARRANTIES AND BONDS

PART 1 - GENERAL

1.1 DESCRIPTION OF WORK

A. Work Included This Section:

1. This Section specifies general administrative and procedural requirements for warranties and bonds required by the Contract Documents, including manufacturer's standard warranties on products and special warranties.
2. Specific requirements for warranties for the Work and products and installations that are specified to be warranted are included in the individual Sections of Divisions 2 through 16.
3. Certifications and other commitments and agreements for continuing services to Owner are specified in the Contract Documents.

B. Disclaimers and Limitations:

1. Manufacturer's disclaimers and limitations on product warranties do not relieve the Contractor of the warranty on the Work that incorporates the products, nor does it relieve suppliers, manufacturers, and subcontractors required to countersign warranties with the Contractor.
2. At no time shall any warranties/guarantees be submitted to the Owner for this project which supercedes or voids any of the Owners rights as established by the state's General Statutes for which the project is located.
3. Failure of the Contractor and/or its suppliers, manufacturers and its sub-contractors to enter into such warranties as required by the Contract Documents shall be considered a breach of contract.

1.2 WARRANTY REQUIREMENTS

A. Related Damages and Losses:

1. 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. Do not reuse damaged materials.

1.3 SUBMITTALS

A. Written Warranties:

1. Submit written warranties to the Architect prior to Substantial Completion in a separate three ring binder. The Architect's Certificate of Substantial Completion designates a commencement date for warranties.
2. Prepare a written document utilizing the appropriate form, ready for execution by the Contractor, or the Contractor and subcontractor, supplier or manufacturer.
3. Refer to individual Sections for specific content requirements, and particular requirements for submittal of special warranties.

B. Form of Submittal:

1. At Final Completion compile two copies of each required warranty and bond properly executed by the Contractor, or by the Contractor, subcontractor, supplier, or

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manufacturer. Deliver all warranties to the Architect before or with the Request for Substantial Completion.

C. Reinstatement of Warranty:

1. When Work covered by a warranty has failed and been corrected by replacement or rebuilding, reinstate the warranty by written endorsement.
2. The reinstated warranty shall be equal to the original warranty with an equitable adjustment for depreciation.

D. Replacement Cost:

1. 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.
2. The Contractor is responsible for the cost of replacing or rebuilding defective work regardless of whether the Owner has benefited from use of Work through a portion of its anticipated useful service life.

E. Owner's Recourse:

1. Written warranties made to the Owner are in addition to implied warranties, and shall not limit the duties, obligations, rights and remedies otherwise available under the law, nor shall warranty periods be interpreted as limitations on time in which the Owner can enforce such other duties, obligations, rights, or remedies.

F. Rejection of Warranties:

1. The Owner reserves the right to reject warranties and to limit selections to products with warranties not in conflict with requirements of the Contract Documents.

PART 2 - PRODUCTS (Not Applicable)

PART 3 - EXECUTION (Not Applicable)

END OF SECTION 01788

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SECTION 06100 - ROUGH CARPENTRY

PART 1 - GENERAL

1.1 SUMMARY

- A. This Section includes the following:
 - 1. Wood blocking and nailers.
 - 2. Wood furring and grounds.

1.2 SUBMITTALS

1.3 QUALITY ASSURANCE

- A. Forest Certification: For the following wood products, provide materials produced from wood obtained from forests certified by an FSC-accredited certification body to comply with FSC 1.2, "Principles and Criteria":
 - 1. Dimension lumber framing.

PART 2 - PRODUCTS

2.1 WOOD PRODUCTS, GENERAL

- A. Lumber: DOC PS 20 and applicable rules of grading agencies indicated. If no grading agency is indicated, provide lumber that complies with the applicable rules of any rules-writing agency certified by the ALSC Board of Review. Provide lumber graded by an agency certified by the ALSC Board of Review to inspect and grade lumber under the rules indicated.
 - 1. Factory mark each piece of lumber with grade stamp of grading agency.
 - 2. Provide dressed lumber, S4S, unless otherwise indicated.

2.2 WOOD-PRESERVATIVE-TREATED LUMBER

- A. Preservative Treatment by Pressure Process: AWPA C2, except that lumber that is not in contact with the ground and is continuously protected from liquid water may be treated according to AWPA C31 with inorganic boron (SBX).
 - 1. Preservative Chemicals: Acceptable to authorities having jurisdiction and containing no arsenic or chromium.
- B. Kiln-dry lumber after treatment to a maximum moisture content of 19 percent.

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- C. Mark lumber with treatment quality mark of an inspection agency approved by the ALSC Board of Review.
- D. Application: Treat all rough carpentry, unless otherwise indicated.
 - 1. Wood cants, nailers, curbs, equipment support bases, blocking, stripping, and similar members in connection with roofing, flashing, vapor barriers, and waterproofing.
 - 2. Wood sills, sleepers, blocking, furring, stripping, and similar concealed members in contact with masonry or concrete.

2.3 DIMENSION LUMBER FRAMING

- A. Maximum Moisture Content: 19 percent.
- B. Framing Construction, Stud, or No. 3 grade and any of the following species:
 - 1. Southern pine; SPIB.
 - 2. Douglas fir-larch; WCLIB or WWPA.
 - 3. Mixed southern pine; SPIB.

2.4 MISCELLANEOUS LUMBER

- A. General: Provide miscellaneous lumber indicated and lumber for support or attachment of other construction, including the following:
 - 1. Blocking.
 - 2. Nailers.
 - 3. Rooftop equipment bases and support curbs.
 - 4. Cants.
 - 5. Furring.
 - 6. Grounds.
- B. For items of dimension lumber size, provide Construction or No. 2 grade lumber with 19 percent maximum moisture content of any species.
- C. For concealed boards, provide lumber with 15 percent maximum moisture content and the following species and grades:
 - 1. Mixed southern pine, No. 2 grade; SPIB.
 - 2. Eastern softwoods, No. 2 Common grade; NeLMA.
 - 3. Northern species, No. 2 Common grade; NLGA.

2.5 FASTENERS

- A. General: Provide fasteners of size and type indicated that comply with requirements specified.

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1. Where rough carpentry is exposed to weather, in ground contact, pressure-preservative treated, or in area of high relative humidity, provide fasteners with hot-dip zinc coating complying with ASTM A 153/A 153M.
- B. Power-Driven Fasteners: NES NER-272.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Set rough carpentry to required levels and lines, with members plumb, true to line, cut, and fitted. Fit rough carpentry to other construction; scribe and cope as needed for accurate fit. Locate furring, nailers, blocking, grounds, and similar supports to comply with requirements for attaching other construction.
- B. Framing Standard: Comply with AF&PA's "Details for Conventional Wood Frame Construction," unless otherwise indicated.
- C. Securely attach rough carpentry work to substrate by anchoring and fastening as indicated, complying with the following:
 1. NES NER-272 for power-driven fasteners.
 2. Table 2304.9.1, "Fastening Schedule," in ICC's International Building Code.

3.2 PROTECTION

- A. Protect wood that has been treated with inorganic boron (SBX) from weather. If, despite protection, inorganic boron-treated wood becomes wet, apply EPA-registered borate treatment. Apply borate solution by spraying to comply with EPA-registered label.

END OF SECTION 06100

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SECTION 06161 – ROOF SHEATHING AND INSULATION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section Includes:
1. Roof sheathing
 2. Roof insulation.

1.3 DEFINITIONS

- A. Roofing Terminology: Definitions in ASTM D 1079 and glossary of NRCA's "The NRCA Roofing and Waterproofing Manual" apply to work of this Section.

1.4 PREINSTALLATION MEETING

- A. Preliminary Roofing Conference: Before starting roof construction, conduct conference at location designated by the Owner
1. Meet with Owner, Architect, Owner's insurer if applicable, testing and inspecting agency representative, roofing Installer, roofing system manufacturer's representative, deck Installer, and installers whose work interfaces with or affects roofing, including installers of roof accessories and roof-mounted equipment.
 2. Review methods and procedures related to roofing installation, including manufacturer's written instructions.
 3. Review and finalize construction schedule, and verify availability of materials, Installer's personnel, equipment, and facilities needed to make progress and avoid delays.
 4. Review deck substrate requirements for conditions and finishes, including flatness and fastening.
 5. Review structural loading limitations of roof deck during and after roofing.
 6. Review base flashings, special roofing details, roof drainage, roof penetrations, equipment curbs, and condition of other construction that affects roofing system.
 7. Review governing regulations and requirements for insurance and certificates if applicable.
 8. Review temporary protection requirements for roofing system during and after installation.
 9. Review roof observation and repair procedures after roofing installation.

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1.5 ACTION SUBMITTALS

- A. Product Data: For each type of product.

- B. Shop Drawings: Include plans, elevations, sections, details, and attachments to other work, including:
 - 1. Insulation fastening patterns for corner, perimeter, and field-of-roof locations.

1.6 INFORMATIONAL SUBMITTALS

- A. Qualification Data: For Installer and manufacturer.

- B. Manufacturer Certificates: Signed by roofing manufacturer certifying that roofing system complies with requirements specified in "Performance Requirements" Article.
 - 1. Submit evidence of complying with performance requirements.

- C. Product Test Reports: For components of membrane roofing system, for tests performed by manufacturer and witnessed by a qualified testing agency.

1.7 CLOSEOUT SUBMITTALS

- A. Maintenance Data: For roofing system to include in maintenance manuals.

1.8 QUALITY ASSURANCE

- A. Installer Qualifications: A qualified firm that is approved, authorized, or licensed by roofing system manufacturer to install manufacturer's product and that is eligible to receive manufacturer's special warranty.

1.9 DELIVERY, STORAGE, AND HANDLING

- A. Deliver roofing materials to Project site in original containers with seals unbroken and labeled with manufacturer's name, product brand name and type, date of manufacture, approval or listing agency markings, and directions for storing and mixing with other components.

- B. Protect roof insulation materials from physical damage and from deterioration by sunlight, moisture, soiling, and other sources. Store in a dry location. Comply with insulation manufacturer's written instructions for handling, storing, and protecting during installation.

- C. Handle and store roofing materials, and place equipment in a manner to avoid permanent deflection of deck.

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1.10 FIELD CONDITIONS

- A. Weather Limitations: Proceed with installation only when existing and forecasted weather conditions permit roofing system to be installed according to manufacturer's written instructions and warranty requirements.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
1. Firestone Building Products
 2. GAF Materials Corporation Garland Company, Inc.
 3. Johns Manville
 4. Dow Chemical Company
 5. Georgia pacific Corporation
- B. Source Limitations: Obtain components including roof insulation, fasteners, and sheathing from manufacturer approved by metal roofing manufacturer.

2.2 PERFORMANCE REQUIREMENTS

- A. General Performance: Installed roofing and base flashings shall withstand specified uplift pressures, thermally induced movement, and exposure to weather without failure due to defective manufacture, fabrication, installation, or other defects in construction. Roofing and base flashings shall remain watertight.
- B. Material Compatibility: Roofing materials shall be compatible with one another and adjacent materials under conditions of service and application required based on testing and field experience.

2.3 ROOF INSULATION

- A. Polyisocyanurate Board Insulation: ASTM C 1289, Type II, Class 1, Grade 2 felt or glass-fiber mat facer on both major surfaces, as manufactured or recommended by roofing manufacturer.

2.4 INSULATION ACCESSORIES

- A. General: Roof insulation accessories recommended by insulation manufacturer for intended use and compatibility with roofing.
- B. Fasteners: Factory-coated steel fasteners and metal or plastic plates complying with corrosion-resistance provisions in FM Global 4470, designed for fastening roof insulation to substrate, and acceptable to roofing system manufacturer.

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- C. Roof Sheathing: ASTM C 1177/C 1177M, glass-mat, water-resistant gypsum substrate, 1/2 inch thick.
 - 1. Products:Basis of design - Firestone Building products, ISOGARD HD cover board

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine substrates, areas, and conditions, with roofing manufacturer's representative and installer's representative present, for compliance with requirements and other conditions affecting performance of the Work:
 - 1. Verify that roof openings and penetrations are in place, curbs are set and braced, and roof-drain bodies are securely clamped in place.
 - 2. Verify that wood cants, blocking, curbs, and nailers are securely anchored to roof deck at penetrations and terminations and that nailers match thicknesses of insulation.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

- A. Clean substrate of dust, debris, moisture, and other substances detrimental to roofing installation according to roofing system manufacturer's written instructions. Remove sharp projections.
- B. Prevent materials from entering and clogging roof drains and conductors and from spilling or migrating onto surfaces of other construction. Remove roof-drain plugs when no work is taking place or when rain is forecast.

3.3 INSTALLATION, GENERAL

- A. Comply with roofing system manufacturer's written instructions.
- B. Provide roof insulation with indicated minimum thickness over all areas.

3.4 INSULATION INSTALLATION

- A. Install insulation with long joints of insulation in a continuous straight line, with end joints staggered between rows, abutting edges and ends between boards. Fill gaps exceeding 1/4 inch (6 mm) with insulation.
 - 1. Cut and fit insulation within 1/4 inch (6 mm) of nailers, projections, and penetrations.
 - 2. Taper insulation to achieve positive slope to roof drains as indicated on drawings.

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- B. Install insulation under area of roofing to achieve required thickness. Install two or more layers with joints of each succeeding layer staggered from joints of previous layer a minimum of 6 inches (150 mm) in each direction.
- C. Install cover boards over insulation with long joints in continuous straight lines with end joints staggered between rows. Offset joints of insulation below a minimum of 6 inches (150 mm) in each direction. Loosely butt cover boards together. Tape joints if required by roofing system manufacturer.

3.5 FIELD QUALITY CONTROL

- A. Final Roof Inspection: Arrange for roofing system manufacturer's technical personnel to inspect roofing installation on completion.
 - 1. Notify Architect and Owner 48 hours in advance of date and time of inspection.
- B. Roofing system will be considered defective if it does not pass tests and inspections.
 - 1. Additional testing and inspecting, at Contractor's expense, will be performed to determine if replaced or additional work complies with specified requirements.

3.6 PROTECTING AND CLEANING

- A. Protect roofing system from damage and wear during remainder of construction period. When remaining construction does not affect or endanger roofing, inspect roofing for deterioration and damage, describing its nature and extent in a written report, with copies to Architect and Owner.
- B. Correct deficiencies in or remove roofing system that does not comply with requirements, repair substrates, and repair or reinstall roofing system to a condition free of damage and deterioration at time of Substantial Completion and according to warranty requirements.

END OF SECTION 06161

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SECTION 07540 - THERMOPLASTIC MEMBRANE ROOFING

PART 1 - GENERAL

1.1 SUMMARY

- A. This Section includes adhered TPO membrane roofing system.

1.2 SUBMITTALS

- A. Product Data: For each product indicated.
- B. Shop Drawings: Include plans, elevations, sections, details, and attachments to other Work.
- C. Samples: For each product included in membrane roofing system.
- D. Research/evaluation reports.
- E. Maintenance data.

1.3 QUALITY ASSURANCE

- A. Installer Qualifications: A qualified installer, approved by manufacturer to install manufacturer's products.
- B. Source Limitations: Obtain components for membrane roofing system from or approved by roofing membrane manufacturer.
- C. Preinstallation Conference: Conduct conference at Project site

1.4 WARRANTY

- A. Special Warranty: Manufacturer's standard form, without monetary limitation, in which manufacturer agrees to repair or replace components of membrane roofing system that fail in materials or workmanship within 20 years from date of Substantial Completion. Failure includes roof leaks.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. In other Part 2 articles where titles below introduce lists, the following requirements apply for product selection:
 - 1. Manufacturers: Subject to compliance with requirements, provide products by the manufacturers specified.

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2.2 THERMOPLASTIC POLYOLEFIN ROOFING MEMBRANE

- A. Fabric-Reinforced Thermoplastic Polyolefin Sheet: Uniform, flexible sheet formed from a thermoplastic polyolefin, internally fabric or scrim reinforced, and as follows:
1. Available Manufacturers:
 - a. Carlisle SynTec Incorporated.
 - b. Firestone Building Products Company.
 - c. GAF Materials Corporation.
 - d. GenFlex Roofing Systems.
 - e. Johns Manville International, Inc.
 - f. Sarnafil Inc.
 - g. Stevens Roofing Systems; Div. of JPS Elastomerics.
 - h. Versico Inc.
 2. Thickness: 60 mils (1.5 mm), nominal.
 3. Exposed Face Color: White.
 4. Physical Properties:
 - a. Breaking Strength: 225 lbf (1 kN); ASTM D 751, grab method.
 - b. Elongation at Break: 15 percent; ASTM D 751.
 - c. Tearing Strength: 55 lbf (245 N) minimum; ASTM D 751, Procedure B.
 - d. Brittleness Point: Minus 22 deg F (30 deg C).
 - e. Ozone Resistance: No cracks after sample, wrapped around a 3-inch- (75-mm-) diameter mandrel, is exposed for 166 hours to a temperature of 104 deg F (40 deg C) and an ozone level of 100 pphm (100 mPa); ASTM D 1149.
 - f. Resistance to Heat Aging: 90 percent minimum retention of breaking strength, elongation at break, and tearing strength after 166 hours at 240 deg F (116 deg C); ASTM D 573.
 - g. Water Absorption: Less than 4 percent mass change after 166 hours' immersion at 158 deg F (70 deg C); ASTM D 471.
 - h. Linear Dimension Change: Plus or minus 2 percent; ASTM D 1204.

2.3 AUXILIARY MATERIALS

- A. General: Auxiliary materials recommended by roofing system manufacturer for intended use and compatible with membrane roofing.
- B. Sheet Flashing: Manufacturer's standard sheet flashing of same material, type, reinforcement, thickness, and color as PVC sheet membrane.
- C. Sheet Flashing: Manufacturer's standard unreinforced thermoplastic polyolefin sheet flashing, 55 mils (1.4 mm) thick, minimum, of same color as sheet membrane.
- D. Bonding Adhesive: Manufacturer's standard solvent-based bonding adhesive for membrane, and solvent-based bonding adhesive for base flashings.
- E. Metal Termination Bars: Manufacturer's standard predrilled stainless-steel or aluminum bars, approximately 1 by 1/8 inch (25 by 3 mm) thick; with anchors.
- F. Metal Battens: Manufacturer's standard aluminum-zinc-alloy-coated or zinc-coated steel sheet, approximately 1 inch (25 mm) wide by 0.05 inch (1.3 mm) thick, prepunched.

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- G. Fasteners: Factory-coated steel fasteners and metal or plastic plates meeting corrosion-resistance provisions in FMG 4470, designed for fastening membrane to substrate, and acceptable to membrane roofing system manufacturer.
- H. Miscellaneous Accessories: Provide pourable sealers, preformed cone and vent sheet flashings, preformed inside and outside corner sheet flashings, T-joint covers, termination reglets, cover strips, slip sheet, and other accessories.

2.4 ROOF INSULATION

- A. Polyisocyanurate Board Insulation: ASTM C 1289, Type II, felt or glass-fiber mat facer on both major surfaces.
- B. Tapered Insulation: Provide factory-tapered insulation boards fabricated to slope of 1/4", unless otherwise indicated.
- C. Provide preformed saddles, crickets, tapered edge strips, and other insulation shapes where indicated for sloping to drain. Fabricate to slopes indicated.

2.5 INSULATION ACCESSORIES

- A. Insulation Adhesive: Insulation manufacturer's recommended adhesive formulated to attach roof insulation to substrate or to another insulation layer as follows:
 - 1. Full-spread spray-applied, low-rise, two-component urethane adhesive.

2.6 WALKWAYS

- A. Flexible Walkways: Factory-formed, nonporous, heavy-duty, solid-rubber, slip-resisting, surface-textured walkway pads or rolls, approximately 3/16 inch (5 mm) thick, and acceptable to membrane roofing system manufacturer. Provide 100 liner feet located as directed by architect

PART 3 - EXECUTION

3.1 SUBSTRATE BOARD INSTALLATION

- A. Install substrate board with long joints in continuous straight lines, perpendicular to roof slopes with end joints staggered between rows. Tightly butt substrate boards together.

3.2 INSULATION INSTALLATION

- A. Coordinate installing membrane roofing system components so insulation is not exposed to precipitation or left exposed at the end of the workday.
- B. Comply with membrane roofing system manufacturer's written instructions for installing roof insulation.
- C. Install tapered insulation under area of roofing to conform to slopes indicated.

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- D. Install one or more layers of insulation under area of roofing to achieve required thickness. Where overall insulation thickness is **2 inches (50 mm)** or greater, install 2 or more layers with joints of each succeeding layer staggered from joints of previous layer a minimum of **6 inches (150 mm)** in each direction.
- E. Adhered Insulation: Install each layer of insulation and adhere to substrate as follows:
 - 1. Set each layer of insulation in a uniform coverage of full-spread insulation adhesive, firmly pressing and maintaining insulation in place.

3.3 ADHERED ROOFING MEMBRANE INSTALLATION

- A. Install roofing membrane over area to receive roofing according to membrane roofing system manufacturer's written instructions. Unroll roofing membrane and allow to relax before installing.
 - 1. Install sheet according to ASTM D 5036.
- B. Bonding Adhesive: Apply solvent-based bonding adhesive to substrate and underside of roofing membrane at rate required by manufacturer and allow to partially dry before installing roofing membrane. Do not apply bonding adhesive to splice area of roofing membrane.
- C. Seams: Clean seam areas, overlap roofing membrane, and hot-air weld side and end laps of roofing membrane according to manufacturer's written instructions to ensure a watertight seam installation.
 - 1. Repair tears, voids, and lapped seams in roofing membrane that does not meet requirements.

3.4 BASE FLASHING INSTALLATION

- A. Install sheet flashings and preformed flashing accessories and adhere to substrates according to membrane roofing system manufacturer's written instructions.
- B. Apply solvent-based bonding adhesive to substrate and underside of sheet flashing at required rate and allow to partially dry. Do not apply bonding adhesive to seam area of flashing.
- C. Flash penetrations and field-formed inside and outside corners with sheet flashing.
- D. Clean seam areas and overlap and firmly roll sheet flashings into the adhesive. Weld side and end laps to ensure a watertight seam installation.
- E. Terminate and seal top of sheet flashings.

3.5 WALKWAY INSTALLATION

- A. Flexible Walkways: Install walkway products in locations indicated. Adhere walkway products to substrate with compatible adhesive according to roofing system manufacturer's written instructions.

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3.6 FIELD QUALITY CONTROL

- A. Testing Agency: Owner will engage a qualified independent testing and inspecting agency to perform roof tests and inspections and to prepare test reports.
- B. Final Roof Inspection: Arrange for roofing system manufacturer's technical personnel to inspect roofing installation on completion and submit report to Architect.
- C. Repair or remove and replace components of membrane roofing system where test results or inspections indicate that they do not comply with specified requirements.

END OF SECTION 07540

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SECTION 07710 - MANUFACTURED ROOF SPECIALTIES

PART 1 - GENERAL

1.1 SUMMARY

- A. This Section includes the following:
 - 1. Copings.
 - 2. Roof edge flashings.
 - 3. Counterflashings and reglets.

1.2 PERFORMANCE REQUIREMENTS

- A. FMG Listing: Manufacture and install copings, & roof edge flashings that are listed in FMG's "Approval Guide" and approved for Windstorm Classification, Class 1- 90. Identify materials with FMG markings.

1.3 SUBMITTALS

- A. Product Data: For each type of product indicated.
- B. Shop Drawings: Show layouts of manufactured roof specialties, including plans and elevations. Identify factory- vs. field-assembled work.
- C. Samples: For each type of manufactured roof specialty indicated with factory-applied color finishes.
- D. Product Test Reports: Verifying compliance of copings & roof edge flashings with performance requirements.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. In other Part 2 articles where titles below introduce lists, the following requirements apply to product selection:
 - 1. Available Products: Subject to compliance with requirements, products that may be incorporated into the Work include, but are not limited to, products specified.
 - 2. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, manufacturers specified.

2.2 EXPOSED METALS

- A. Aluminum Sheet: **ASTM B 209 (ASTM B 209M)**, alloy and temper recommended by manufacturer for use and finish indicated, finished as follows:

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1. Surface: Smooth, flat finish.
 - 2.
 3. High-Performance Organic Finish: Three-coat, thermocured system with color coats containing not less than 70 percent polyvinylidene fluoride resin by weight; complying with AAMA 2604.
 - 4.
- B. Aluminum Extrusions: **ASTM B 221 (ASTM B 221M)**, alloy and temper recommended by manufacturer for type of use and finish indicated, finished as follows:
1. High-Performance Organic Finish: Three-coat, thermocured system with color coats containing not less than 70 percent polyvinylidene fluoride resin by weight; complying with AAMA 2604.
 - 2.

2.3 CONCEALED METALS

- A. Aluminum Sheet: **ASTM B 209 (ASTM B 209M)**, alloy and temper recommended by manufacturer for use and structural performance indicated, mill finished.
- B. Aluminum Extrusions: **ASTM B 221 (ASTM B 221M)**, alloy and temper recommended by manufacturer for type of use and structural performance indicated, mill finished.

2.4 MISCELLANEOUS MATERIALS

- A. General: Provide materials and types of fasteners, protective coatings, separators, sealants, and other miscellaneous items required by manufacturer for a complete installation.
- B. Fasteners: Manufacturer's recommended fasteners, suitable for application and designed to withstand design loads.
1. Exposed Penetrating Fasteners: Gasketed screws with hex washer heads matching color of sheet metal.
- C. Elastomeric Sealant: ASTM C 920, elastomeric polysulfide polymer sealant; of type, grade, class, and use classifications required to seal joints in sheet metal flashing and trim and remain watertight.
- D. Butyl Sealant: ASTM C 1311, single-component, solvent-release butyl rubber sealant, polyisobutylene plasticized, heavy bodied for hooked-type expansion joints with limited movement.
- E. Bituminous Coating: Cold-applied asphalt mastic, SSPC-Paint 12, compounded for **15-mil (0.4-mm)** dry film thickness per coat. Provide inert-type noncorrosive compound free of asbestos fibers, sulfur components, and other deleterious impurities.

2.5 COPINGS

- A. Copings: Manufactured coping system consisting of formed-metal coping cap in section lengths not exceeding **12 feet (3.6 m)**, concealed anchorage, concealed splice plates with same finish as coping caps, mitered corner units, and end cap units.
1. Available Manufacturers:
 - a. Architectural Products Co.

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- b. ATAS International, Inc.
 - c. Castle Metal Products.
 - d. Cheney Flashing Company.
 - e. Hickman, W. P. Company.
 - f. Merchant & Evans, Inc.
 - g. Metal-Era, Inc.
 - h. Metal-Fab Manufacturing LLC.
 - i. MM Systems Corporation.
 - j. Perimeter Systems, a division of Southern Aluminum Finishing Co.
 - k. Petersen Aluminum Corp.
2. Coping Cap Color: As selected by Architect from manufacturer's full range.
 3. Corners: Continuously welded.
 4. Snap-on Coping Anchor Plates: Concealed, galvanized steel sheet, **12 inches (300 mm)** wide, **0.028 inch (0.7 mm)** thick, with integral cleats.
 5. Face Leg Cleats: Concealed, continuous galvanized steel sheet.

2.6 ROOF EDGE FLASHINGS

- A. Canted Roof Edge Fascia: Manufactured, two-piece, roof edge fascia consisting of snap-on metal fascia cover in section lengths not exceeding **12 feet (3.6 m)** and a continuous formed galvanized steel sheet cant dam, **0.028 inch (0.7 mm)** thick, minimum, with integral drip edge cleat. Provide matching mitered and welded corner units.
 1. Available Manufacturers:
 - a. Architectural Products Co.
 - b. Castle Metal Products.
 - c. Cheney Flashing Company.
 - d. Hickman, W. P. Company.
 - e. Merchant & Evans, Inc.
 - f. Metal-Era, Inc.
 - g. Metal-Fab Manufacturing LLC.
 - h. MM Systems Corporation.
 - i. Perimeter Systems, a division of Southern Aluminum Finishing Co.
 - j. Petersen Aluminum Corp.

2.7 COUNTERFLASHINGS AND REGLETS

- A. Available Manufacturers:
 1. Castle Metal Products.
 2. Cheney Flashing Company.
 3. Fry Reglet Corporation.
 4. Hickman, W. P. Company.
 5. Keystone Flashing Company.
 6. Merchant & Evans, Inc.
 7. Metal-Era, Inc.
 8. MM Systems Corporation.
- B. Counterflashings: Manufactured units in lengths not exceeding **12 feet (3.6 m)** designed to snap into reglets and compress against base flashings with joints lapped, from the following exposed metal in thickness indicated:
 1. Copper: **16 oz./sq. ft. (0.55 mm thick)**.

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- C. Reglets: Manufactured units formed to provide secure interlocking of separate reglet and counterflashing pieces, and compatible with flashings indicated, from the following exposed metal in thickness indicated:
 - 1. Copper: 16 oz./sq. ft. (0.55 mm thick).

PART 3 - EXECUTION

3.1 INSTALLATION

- A. General: Install manufactured roof specialties according to manufacturer's written instructions. Anchor manufactured roof specialties securely in place and capable of resisting forces specified in performance requirements. Use fasteners, separators, sealants, and other miscellaneous items as required to complete manufactured roof specialty systems.
 - 1. Install manufactured roof specialties with provisions for thermal and structural movement.
 - 2. Torch cutting of manufactured roof specialties is not permitted.
- B. Metal Protection: Where dissimilar metals will contact each other or corrosive substrates, protect against galvanic action by painting contact surfaces with bituminous coating or by other permanent separation as recommended by manufacturer.
- C. Install manufactured roof specialties level, plumb, true to line and elevation, and without warping, jogs in alignment, excessive oil-canning, buckling, or tool marks.
- D. Install manufactured roof specialties to fit substrates and to result in watertight performance. Verify shapes and dimensions of surfaces to be covered before manufacture.
- E. Fasteners: Use fasteners of type and size recommended by manufacturer but of sizes that will penetrate substrate not less than 1-1/4 inches (32 mm) for nails and not less than 3/4 inch (19 mm) for wood screws.
- F. Seal joints with elastomeric sealant as required by manufacturer of roofing specialties.

3.2 COPING INSTALLATION

- A. Install cleats, anchor plates, and other anchoring and attachment accessories and devices with concealed fasteners.
- B. Anchor copings to resist uplift and outward forces according to performance requirements.
 - 1. Interlock face and back leg drip edges of snap-on coping cap into cleated anchor plates anchored to substrate at 30-inch (760-mm) centers.
 - 2. Interlock face leg drip edge into continuous cleat anchored to substrate at 24-inch (600-mm) centers. Anchor back leg of coping with screw fasteners and elastomeric washers at 24-inch (600-mm) centers.

3.3 ROOF EDGE FLASHING INSTALLATION

- A. Install cleats, cant dams, and other anchoring and attachment accessories and devices with concealed fasteners.
- B. Anchor roof edgings to resist uplift and outward forces according to performance requirements.

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3.4 COUNTERFLASHING AND REGLET INSTALLATION

- A. Counterflashings: Coordinate installation of counterflashings with installation of base flashings. Insert counterflashings in reglets or receivers and fit tightly to base flashings. Extend counterflashings **4 inches (100 mm)** over base flashings. Lap counterflashing joints a minimum of **4 inches (100 mm)** and bed with elastomeric sealant.

END OF SECTION 07710

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