

**CRF DM LAW CENTER
ROOF REPLACEMENT
UNIVERSITY OF SOUTH CAROLINA
701 MAIN STREET
COLUMBIA SC 29208**

**STATE PROJECT NO: H27-6094-F
USC PROJECT NO: CP00336850**

Prepared For:

FACILITIES PLANNING AND CONSTRUCTION

University of South Carolina
743 Greene Street
Columbia, SC

Prepared By:

FLOYD ABRAMS COMPANY
Post Office Box 6136
Columbia, South Carolina 29260-6136



March 27, 2012
FAC Project No. 12.0100

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PROJECT NAME: Roof Replacement, CRF DM LAW Center

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NOTE: The pages of each section are numbered independently for each section and the total number of pages for each section is recorded in this Table of Contents. Each section is concluded with an End of Section statement. It shall be the Contractor's responsibility to verify that specifications received for bidding and/or construction are complete in accordance with this Table of Contents; no additional compensation will be allowed the Contractor due to belated discovery of missing pages.

SE-310
REQUEST FOR ADVERTISEMENT

2011 Edition
Rev. 7/20/2011

PROJECT NAME: Roof Replacement, CRF DM Law Center

PROJECT NUMBER: H27-6094-F

PROJECT LOCATION: University of South Carolina, Columbia, SC

Contractor may be subject to performance appraisal at close of project

BID SECURITY REQUIRED? Yes ☒ No ☐

PERFORMANCE & PAYMENT BONDS REQUIRED? Yes ☒ No ☐

CONSTRUCTION COST RANGE: \$500,000 to \$1,000,000

DESCRIPTION OF PROJECT: Remove existing gravel surface BUR, Roof Areas A and D. Roof and flashing membrane tested positive for asbestos. Install new roof insulation and three-ply asphalt roof with fire-rated bitumen cap sheet over lightweight concrete roof deck. Roof Area B to receive fluid-applied elastomeric deck coating. Masonry parapets will be clad with sheet metal panels.

A/E NAME: Floyd Abrams Company

A/E CONTACT: Floyd Abrams

A/E ADDRESS: Street/PO Box: 3111 Devine Street/PO Box 6136 (29160-0136)

City: Columbia

State: SC ZIP: 29205-

EMAIL: floydabramsco@mindspring.com

TELEPHONE: 803-343-1272

FAX: 803-343-1274

All questions & correspondence concerning this Invitation shall be addressed to the A/E.

BIDDING DOCUMENTS/PLANS MAY BE OBTAINED FROM: http://purchasing.sc.edu

PLAN DEPOSIT AMOUNT: \$0.00 **IS DEPOSIT REFUNDABLE:** Yes ☐ No ☐

Only those Bidding Documents/Plans obtained from the above listed source(s) are official. Bidders rely on copies of Bidding Documents/Plans obtained from any other source at their own risk.

BIDDING DOCUMENTS/PLANS ARE ALSO ON FILE FOR VIEWING PURPOSES ONLY AT *(list name and location for each plan room or other entity):*

It is the contractor's responsibility to obtain specs/plans, addenda, award, etc from the purchasing website.
http://purchasing.sc.edu

PRE-BID CONFERENCE? Yes ☒ No ☐ **MANDATORY ATTENDANCE?** Yes ☐ No ☒

DATE: 9/13/2012 **TIME:** 10:00 AM **PLACE:** 743 Greene St., Conference Room 53, Columbia, SC

AGENCY: Facilities Planning and Construction, University of South Carolina

NAME OF AGENCY PROCUREMENT OFFICER: Ms. Juaquana Brookins

ADDRESS: Street/PO Box: 743 Greene Street

City: Columbia

State: SC ZIP: 29208-

EMAIL: jbrookin@fmc.sc.edu

TELEPHONE: 803-777-3596

FAX: 803-777-7334

BID CLOSING DATE: 9/27/2012 **TIME:** 2:00 PM **LOCATION:** 743 Greene St., Conference Room 53, Columbia, SC

BID DELIVERY ADDRESSES:

HAND-DELIVERY:

Attn: Juaquana Brookins

Business & Finance, USC

743 Greene Street

Columbia, SC 29208

MAIL SERVICE:

Attn: Juaquana Brookins

Business & Finance, USC

743 Greene Street

Columbia, SC 29208

IS PROJECT WITHIN AGENCY CONSTRUCTION CERTIFICATION? (Agency MUST check one) Yes ☒ No ☐

APPROVED BY *(Office of State Engineer):* _____

DATE: _____

**AIA DOCUMENT A701-1997
INSTRUCTIONS TO BIDDERS
IS AVAILABLE FOR REVIEW
AT THE OFFICE OF
FLOYD ABRAMS COMPANY**

**Floyd Abrams Company
3111 Devine Street
Columbia, SC 29205
803-343-1272**

OSE FORM 00201**STANDARD SUPPLEMENTAL INSTRUCTIONS TO BIDDERS**

OWNER: University of South Carolina**PROJECT NUMBER:** H27-6094-F**PROJECT NAME:** CRF DM LAW CENTER ROOF REPLACEMENT**PROJECT LOCATION:** Columbia, SC**PROCUREMENT OFFICER:** Juaquana Brookins**1. STANDARD SUPPLEMENTAL INSTRUCTIONS TO BIDDERS**

1.1. These Standard Supplemental Instructions To Bidders amend or supplement Instructions To Bidders (AIA Document A701-1997) and other provisions of Bidding and Contract Documents as indicated below.

1.2. Compliance with these Standard Supplemental Instructions is required by the Office of State Engineer (OSE) for all State projects when competitive sealed bidding is used as the method of procurement.

1.3. All provisions of A701-1997, which are not so amended or supplemented, remain in full force and effect.

1.4. Bidders are cautioned to carefully examine the Bidding and Contract Documents for additional instructions or requirements.

2. MODIFICATIONS TO A701-1997

2.1. *Delete Section 1.1 and insert the following:*

1.1 Bidding Documents, collectively referred to as the **Invitation for Bids**, include the Bidding Requirements and the proposed Contract Documents. The Bidding Requirements consist of the Advertisement, Instructions to Bidders (A-701), Supplementary Instructions to Bidders, the bid form (SE-330), the Intent to Award Notice (SE-370), and other sample bidding and contract forms. The proposed Contract Documents consist of the form of Agreement between the Owner and Contractor, Conditions of the Contract (General, Supplementary and other Conditions), Drawings, Specifications, all Addenda issued prior to execution of the Contract, and other documents set forth in the Bidding Documents. Any reference in this document to the Agreement between the Owner and Contractor, AIA Document A101, or some abbreviated reference thereof, shall mean the AIA A101, 2007 Edition as modified by OSE Form 00501 – Standard Modification to Agreement Between Owner and Contractor. Any reference in this document to the General Conditions of the Contract for Construction, AIA Document A201, or some abbreviated reference thereof, shall mean the AIA A201, 2007 Edition as modified by OSE Form 00811 – Standard Supplementary Conditions.

2.2. *In Section 1.8, delete the words “and who meets the requirements set forth in the Bidding Documents”.*

2.3. *In Section 2.1, delete the word “making” and substitute the word “submitting.”*

2.4. *In Section 2.1.1:*

After the words “Bidding Documents,” delete the word “or” and substitute the word “and.”

Insert the following at the end of this section:

Bidders are expected to examine the Bidding Documents and Contract Documents thoroughly and should request an explanation of any ambiguities, discrepancies, errors, omissions, or conflicting statements. Failure to do so will be at the Bidder's risk. Bidder assumes responsibility for any patent ambiguity that Bidder does not bring to the Owner's attention prior to bid opening.

2.5. *In Section 2.1.3, insert the following after the term “Contract Documents” and before the period:*

and accepts full responsibility for any pre-bid existing conditions that would affect the Bid that could have been ascertained by a site visit. As provided in Regulation 19-445.2042(B), A bidder's failure to attend an advertised pre-bid conference will not excuse its responsibility for estimating properly the difficulty and cost of successfully performing the work, or for proceeding to successfully perform the work without additional expense to the State.

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2.6. *Insert the following Sections 2.2 through 2.6:*

2.2 CERTIFICATION OF INDEPENDENT PRICE DETERMINATION

GIVING FALSE, MISLEADING, OR INCOMPLETE INFORMATION ON THIS CERTIFICATION MAY RENDER YOU SUBJECT TO PROSECUTION UNDER SECTION 16-9-10 OF THE SOUTH CAROLINA CODE OF LAWS AND OTHER APPLICABLE LAWS.

(a) By submitting an bid, the bidder certifies that—

(1) The prices in this bid have been arrived at independently, without, for the purpose of restricting competition, any consultation, communication, or agreement with any other bidder or competitor relating to—

- (i) Those prices;
- (ii) The intention to submit an bid; or
- (iii) The methods or factors used to calculate the prices offered.

(2) The prices in this bid have not been and will not be knowingly disclosed by the bidder, directly or indirectly, to any other bidder or competitor before bid opening (in the case of a sealed bid solicitation) or contract award (in the case of a negotiated solicitation) unless otherwise required by law; and

(3) No attempt has been made or will be made by the bidder to induce any other concern to submit or not to submit an bid for the purpose of restricting competition.

(b) Each signature on the bid is considered to be a certification by the signatory that the signatory—

(1) Is the person in the bidder's organization responsible for determining the prices being offered in this bid, and that the signatory has not participated and will not participate in any action contrary to paragraphs (a)(1) through (a)(3) of this certification; or

(2)(i) Has been authorized, in writing, to act as agent for the bidder's principals in certifying that those principals have not participated, and will not participate in any action contrary to paragraphs (a)(1) through (a)(3) of this certification [As used in this subdivision (b)(2)(i), the term "principals" means the person(s) in the bidder's organization responsible for determining the prices offered in this bid];

(ii) As an authorized agent, does certify that the principals referenced in subdivision (b)(2)(i) of this certification have not participated, and will not participate, in any action contrary to paragraphs (a)(1) through (a)(3) of this certification; and

(iii) As an agent, has not personally participated, and will not participate, in any action contrary to paragraphs (a)(1) through (a)(3) of this certification.

(c) If the bidder deletes or modifies paragraph (a)(2) of this certification, the bidder must furnish with its offer a signed statement setting forth in detail the circumstances of the disclosure.

2.3 DRUG FREE WORKPLACE

By submitting a bid, the Bidder certifies that Bidder will maintain a drug free workplace in accordance with the requirements of Title 44, Chapter 107 of South Carolina Code of Laws, as amended.

2.4 CERTIFICATION REGARDING DEBARMENT AND OTHER RESPONSIBILITY MATTERS

(a) (1) By submitting an Bid, Bidder certifies, to the best of its knowledge and belief, that-

(i) Bidder and/or any of its Principals-

(A) Are not presently debarred, suspended, proposed for debarment, or declared ineligible for the award of contracts by any state or federal agency;

(B) Have not, within a three-year period preceding this bid, been convicted of or had a civil judgment rendered against them for: commission of fraud or a criminal offense in

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connection with obtaining, attempting to obtain, or performing a public (Federal, state, or local) contract or subcontract; violation of Federal or state antitrust statutes relating to the submission of bids; or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, tax evasion, or receiving stolen property; and

(C) Are not presently indicted for, or otherwise criminally or civilly charged by a governmental entity with, commission of any of the offenses enumerated in paragraph (a)(1)(i)(B) of this provision.

(ii) Bidder has not, within a three-year period preceding this bid, had one or more contracts terminated for default by any public (Federal, state, or local) entity.

(2) "Principals," for the purposes of this certification, means officers; directors; owners; partners; and, persons having primary management or supervisory responsibilities within a business entity (e.g., general manager; plant manager; head of a subsidiary, division, or business segment, and similar positions).

(b) Bidder shall provide immediate written notice to the Procurement Officer if, at any time prior to contract award, Bidder learns that its certification was erroneous when submitted or has become erroneous by reason of changed circumstances.

(c) If Bidder is unable to certify the representations stated in paragraphs (a)(1), Bid must submit a written explanation regarding its inability to make the certification. The certification will be considered in connection with a review of the Bidder's responsibility. Failure of the Bidder to furnish additional information as requested by the Procurement Officer may render the Bidder nonresponsible.

(d) Nothing contained in the foregoing shall be construed to require establishment of a system of records in order to render, in good faith, the certification required by paragraph (a) of this provision. The knowledge and information of an Bidder is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.

(e) The certification in paragraph (a) of this provision is a material representation of fact upon which reliance was placed when making award. If it is later determined that the Bidder knowingly or in bad faith rendered an erroneous certification, in addition to other remedies available to the State, the Procurement Officer may terminate the contract resulting from this solicitation for default.

2.5 ETHICS CERTIFICATE

By submitting a bid, the bidder certifies that the bidder has and will comply with, and has not, and will not, induce a person to violate Title 8, Chapter 13 of the South Carolina Code of Laws, as amended (ethics act). The following statutes require special attention: Section 8-13-700, regarding use of official position for financial gain; Section 8-13-705, regarding gifts to influence action of public official; Section 8-13-720, regarding offering money for advice or assistance of public official; Sections 8-13-755 and 8-13-760, regarding restrictions on employment by former public official; Section 8-13-775, prohibiting public official with economic interests from acting on contracts; Section 8-13-790, regarding recovery of kickbacks; Section 8-13-1150, regarding statements to be filed by consultants; and Section 8-13-1342, regarding restrictions on contributions by contractor to candidate who participated in awarding of contract. The state may rescind any contract and recover all amounts expended as a result of any action taken in violation of this provision. If contractor participates, directly or indirectly, in the evaluation or award of public contracts, including without limitation, change orders or task orders regarding a public contract, contractor shall, if required by law to file such a statement, provide the statement required by Section 8-13-1150 to the procurement officer at the same time the law requires the statement to be filed.

2.6 RESTRICTIONS APPLICABLE TO BIDDERS & GIFTS

Violation of these restrictions may result in disqualification of your bid, suspension or debarment, and may constitute a violation of the state Ethics Act. (a) After issuance of the solicitation, ***bidder agrees not to discuss this procurement activity in any way with the Owner or its employees, agents or officials.*** All communications must be solely with the Procurement Officer. This restriction may be lifted by express written permission from the Procurement Officer. This restriction expires once a contract has been formed. (b) Unless otherwise approved in writing by the Procurement

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Officer, *bidder agrees not to give anything to the Owner, any affiliated organizations, or the employees, agents or officials of either, prior to award.* (c) Bidder acknowledges that the policy of the State is that a governmental body should not accept or solicit a gift, directly or indirectly, from a donor if the governmental body has reason to believe the donor has or is seeking to obtain contractual or other business or financial relationships with the governmental body. Regulation 19-445.2165(C) broadly defines the term donor.

2.7. Delete Section 3.1.1 and substitute the following:

3.1.1 Bidders may obtain complete sets of the Bidding Documents from the issuing office designated in the Advertisement in the number and for the deposit sum, if any, stated therein. If so provided in the Advertisement, the deposit will be refunded to all plan holders who return the Bidding Documents in good condition within ten days after receipt of Bids. The cost of replacement of missing or damaged documents will be deducted from the deposit. A Bidder receiving a Contract award may retain the Bidding Documents and the Bidder's deposit will be refunded.

2.8. Delete the language of Section 3.1.2 and insert the word "Reserved."

2.9. In Section 3.1.4, delete the words "and Architect may make" and substitute the words "has made."

2.10. Insert the following Section 3.1.5

3.1.5 All persons obtaining Bidding Documents from the issuing office designated in the Advertisement shall provide that office with Bidder's contact information to include the Bidder's name, telephone number, mailing address, and email address.

2.11. In Section 3.2.2:

Delete the words "and Sub-bidders"

Delete the word "seven" and substitute the word "ten"

2.12. In Section 3.2.3:

In the first Sentence, insert the word "written" before the word "Addendum."

Insert the following at the end of the section:

As provided in Regulation 19-445.2042(B), nothing stated at the pre-bid conference shall change the Bidding Documents unless a change is made by written Addendum.

2.13. Insert the following at the end of Section 3.3.1:

Reference in the Bidding Documents to a designated material, product, thing, or service by specific brand or trade name followed by the words "or equal" and "or approved equal" shall be interpreted as establishing a standard of quality and shall not be construed as limiting competition.

2.14. Delete Section 3.3.2 and substitute the following:

3.3.2 No request to substitute materials, products, or equipment for materials, products, or equipment described in the Bidding Documents and no request for addition of a manufacturer or supplier to a list of approved manufacturers or suppliers in the Bidding Documents will be considered prior to receipt of Bids unless written request for approval has been received by the Architect at least ten days prior to the date for receipt of Bids established in the Invitation for Bids. Any subsequent extension of the date for receipt of Bids by addendum shall not extend the date for receipt of such requests unless the addendum so specifies. Such requests shall 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 an evaluation. 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. The burden of proof of the merit of the proposed substitution is upon the proposer. The Architect's decision of approval or disapproval of a proposed substitution shall be final.

2.15. Delete Section 3.4.3 and substitute the following:

3.4.3 Addenda will be issued no later than 120 hours prior to the time for receipt of Bids except an Addendum withdrawing the request for Bids or one which includes postponement of the date for receipt of Bids.

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2.16. Insert the following Sections 3.4.5 and 3.4.6:

3.4.5 When the date for receipt of Bids is to be postponed and there is insufficient time to issue a written Addendum prior to the original Bid Date, Owner will notify prospective Bidders by telephone or other appropriate means with immediate follow up with a written Addendum. This Addendum will verify the postponement of the original Bid Date and establish a new Bid Date. The new Bid Date will be no earlier than the fifth (5th) calendar day after the date of issuance of the Addendum postponing the original Bid Date.

3.4.6. If an emergency or unanticipated event interrupts normal government processes so that bids cannot be received at the government office designated for receipt of bids by the exact time specified in the solicitation, the time specified for receipt of bids will be deemed to be extended to the same time of day specified in the solicitation on the first work day on which normal government processes resume. In lieu of an automatic extension, an Addendum may be issued to reschedule bid opening. If state offices are closed at the time a pre-bid or pre-proposal conference is scheduled, an Addendum will be issued to reschedule the conference. Useful information may be available at: http://www.scemd.org/scgovweb/weather_alert.html

2.17. In Section 4.1.1, delete the word "forms" and substitute the words "SE-330 Bid Form."**2.18. Delete Section 4.1.2 and substitute the following:**

4.1.2 Any blanks on the bid form to be filled in by the Bidder shall be legibly executed in a non-erasable medium. Bids shall be signed in ink or other indelible media.

2.19. Delete Section 4.1.3 and substitute the following:

4.1.3 Sums shall be expressed in figures.

2.20. Insert the following at the end of Section 4.1.4:

Bidder shall not make stipulations or qualify his bid in any manner not permitted on the bid form. An incomplete Bid or information not requested that is written on or attached to the Bid Form that could be considered a qualification of the Bid, may be cause for rejection of the Bid.

2.21. Delete Section 4.1.5 and substitute the following:

4.1.5 All requested Alternates shall be bid. The failure of the bidder to indicate a price for an Alternate shall render the Bid non-responsive. Indicate the change to the Base Bid by entering the dollar amount and marking, as appropriate, the box for "ADD TO" or "DEDUCT FROM". If no change in the Base Bid is required, enter "ZERO" or "No Change." For add alternates to the base bid, Subcontractor(s) listed on page BF-2 of the Bid Form to perform Alternate Work may be used for both Alternates and Base Bid Work if Alternates are accepted.

2.22. Delete Section 4.1.6 and substitute the following:

4.1.6 Pursuant to Title 11, Chapter 35, Section 3020(b)(i) of the South Carolina Code of Laws, as amended, Section 7 of the Bid Form sets forth a list of subcontractor specialties for which Bidder is required to list only the subcontractors Bidder will use to perform the work of each listed specialty. Bidder must follow the Instructions in the Bid Form for filling out this section of the Bid Form. Failure to properly fill out Section 7 may result in rejection of Bidder's bid as non-responsive.

2.23. Delete Section 4.1.7 and substitute the following:

4.1.7 Each copy of the Bid shall state the legal name of the Bidder and the nature of legal form of the Bidder. Each copy shall be signed by the person or persons legally authorized to bind the Bidder to a contract. A Bid submitted by an agent shall have a current power of attorney attached certifying the agent's authority to bind the Bidder.

2.24. Delete Section 4.2.1 and substitute the following:

4.2.1 If required by the Invitation for Bids, each Bid shall be accompanied by a bid security in an amount of not less than five percent of the Base Bid. The bid security shall be a bid bond or a certified cashier's check. The Bidder pledges to enter into a Contract with the Owner on the terms stated in the Bid and will, if required, furnish bonds covering the faithful performance of the Contract and payment of all obligations arising thereunder. Should the Bidder refuse to enter into such Contract or fail to furnish such bonds if required, the amount of the bid security shall be forfeited to the Owner as liquidated damages, not as a penalty.

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2.25. Delete Section 4.2.2 and substitute the following:

4.2.2 If a surety bond is required, it shall be written on AIA Document A310, Bid Bond, and the attorney-in-fact who executes the bond on behalf of the surety shall affix to the bond a certified and current copy of the power of attorney. The bid bond shall:

- .1 Be issued by a surety company licensed to do business in South Carolina;
- .2 Be issued by a surety company having, at a minimum, a "Best Rating" of "A" as stated in the most current publication of "Best's Key Rating Guide, Property-Casualty", which company shows a financial strength rating of at least five (5) times the contract price.
- .3 Be enclosed in the bid envelope at the time of Bid Opening, either in paper copy or as an electronic bid bond authorization number provided on the Bid Form and issued by a firm or organization authorized by the surety to receive, authenticate and issue binding electronic bid bonds on behalf the surety.

2.26. Delete Section 4.2.3 and substitute the following:

4.2.3 By submitting a bid bond via an electronic bid bond authorization number on the Bid Form and signing the Bid Form, the Bidder certifies that an electronic bid bond has been executed by a Surety meeting the standards required by the Bidding Documents and the Bidder and Surety are firmly bound unto the State of South Carolina under the conditions provided in this Section 4.2.

2.27. Insert the following Section 4.2.4:

4.2.4 The Owner will have the right to retain the bid security of Bidders to whom an award is being considered until either (a) the Contract has been executed and performance and payment bonds, if required, have been furnished, or (b) the specified time has elapsed so that Bids may be withdrawn or (c) all Bids have been rejected.

2.28. Delete Section 4.3.1 and substitute the following:

4.3.1 All copies of the Bid, the bid security, if any, and any other documents required to be submitted with the Bid shall be enclosed in a sealed opaque envelope. The envelope shall, unless hand delivered by the Bidder, be addressed to the Owner's designated purchasing office as shown in the Invitation for Bids. The envelope shall be identified with the Project name, the Bidder's name and address and, if applicable, the designated portion of the Work for which the Bid is submitted. If the Bid is sent by mail or special delivery service (UPS, Federal Express, etc.), the envelope should be labeled "BID ENCLOSED" on the face thereof. Bidders hand delivering their Bids shall deliver Bids to the place of the Bid Opening as shown in the Invitation for Bids. Whether or not Bidders attend the Bid Opening, they shall give their Bids to the Owner's procurement officer or his/her designee as shown in the Invitation for Bids prior to the time of the Bid Opening.

2.29. Insert the following Section 4.3.6 and substitute the following:

4.3.5 The official time for receipt of Bids will be determined by reference to the clock designated by the Owner's procurement officer or his/her designee. The procurement officer conducting the Bid Opening will determine and announce that the deadline has arrived and no further Bids or bid modifications will be accepted. All Bids and bid modifications in the possession of the procurement officer at the time the announcement is completed will be timely, whether or not the bid envelope has been date/time stamped or otherwise marked by the procurement officer.

2.30. Delete Section 4.4.2 and substitute the following:

4.4.2 Prior to the time and date designated for receipt of Bids, a Bid submitted may be withdrawn in person or by written notice to the party receiving Bids at the place designated for receipt of Bids. Withdrawal by written notice shall be in writing over the signature of the Bidder.

2.31. In Section 5.1, delete everything following the caption "OPENING OF BIDS" and substitute the following:

5.1.1 Bids received on time will be publicly opened and will be read aloud. Owner will not read aloud Bids that Owner determines, at the time of opening, to be non-responsive. .

5.1.2 At bid opening, Owner will announce the date and location of the posting of the Notice of Intended Award.

5.1.3 Owner will send a copy of the final Bid Tabulation to all Bidders within ten (10) working days of the Bid Opening.

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5.1.4 If Owner determines to award the Project, Owner will, after posting a Notice of Intended Award, send a copy of the Notice to all Bidders.

5.1.5 If only one Bid is received, Owner will open and consider the Bid.

2.32. In Section 5.2, insert the section number "5.2.1" before the words of the "The Owner" at the beginning of the sentence.

2.33. Insert the following Sections 5.2.2 and 5.2.3:

5.2.2 The reasons for which the Owner will reject Bids include, but are not limited to:

- .1** Failure by a Bidder to be represented at a Mandatory Pre-Bid Conference or site visit;
- .2** Failure to deliver the Bid on time;
- .3** Failure to comply with Bid Security requirements, except as expressly allowed by law;
- .4** Listing an invalid electronic Bid Bond authorization number on the bid form;
- .5** Failure to Bid an Alternate, except as expressly allowed by law;
- .6** Failure to list qualified Subcontractors as required by law;
- .7** Showing any material modification(s) or exception(s) qualifying the Bid;
- .8** Faxing a Bid directly to the Owner or their representative; or
- .9** Failure to include a properly executed Power-of-Attorney with the bid bond.

5.2.3 The Owner may reject a Bid as nonresponsive if the prices bid are materially unbalanced between line items or sub-line items. A bid is materially unbalanced when it is based on prices significantly less than cost for some work and prices which are significantly overstated in relation to cost for other work, and if there is a reasonable doubt that the bid will result in the lowest overall cost to the Owner even though it may be the low evaluated bid, or if it is so unbalanced as to be tantamount to allowing an advance payment.

2.34. Delete Section 6.1 and substitute the following:

6.1 CONTRACTOR'S RESPONSIBILITY

Owner will make a determination of Bidder's responsibility before awarding a contract. Bidder shall provide all information and documentation requested by the Owner to support the Owner's evaluation of responsibility. Failure of Bidder to provide requested information is cause for the Owner, at its option, to determine the Bidder to be non-responsible

2.35. Delete the language of Section 6.2 and insert the word "Reserved."

2.36. Delete the language of Sections 6.3.2, 6.3.3, and 6.3.4 and insert the word "Reserved" after each Section Number.

2.37. Insert the following Section 6.4

6.4 CLARIFICATION

Pursuant to Section 11-35-1520(8), the Procurement Officer may elect to communicate with a Bidder after opening for the purpose of clarifying either the Bid or the requirements of the Invitation for Bids. Such communications may be conducted only with Bidders who have submitted a Bid which obviously conforms in all material aspects to the Invitation for Bids and only in accordance with Appendix D (Paragraph A(6)) to the Manual for Planning and Execution of State Permanent Improvement, Part II. Clarification of a Bid must be documented in writing and included with the Bid. Clarifications may not be used to revise a Bid or the Invitation for Bids. [Section 11-35-1520(8); R.19-445.2080]

2.38. Delete Section 7.1.2 and substitute the following:

7.1.2 The performance and payment bonds shall conform to the requirements of Section 11.4 of the General Conditions of the Contract. If the furnishing of such bonds is stipulated in the Bidding Documents, the cost shall be included in the Bid.

2.39. Delete the language of Section 7.1.3 and insert the word "Reserved."

2.40. In Section 7.2, insert the words "CONTRACT, CERTIFICATES OF INSURANCE" into the caption after the word "Delivery."

OSE FORM 00201**STANDARD SUPPLEMENTAL INSTRUCTIONS TO BIDDERS****2.41. Delete Section 7.2.1 and substitute the following:**

7.2.1 After expiration of the protest period, the Owner will tender a signed Contract for Construction to the Bidder and the Bidder shall return the fully executed Contract for Construction to the Owner within seven days thereafter. The Bidder shall deliver the required bonds and certificate of insurance to the Owner not later than three days following the date of execution of the Contract. Failure to deliver these documents as required shall entitle the Owner to consider the Bidder's failure as a refusal to enter into a contract in accordance with the terms and conditions of the Bidder's Bid and to make claim on the Bid Security for re-procurement cost.

2.42. Delete the language of Section 7.2.2 and insert the word "Reserved."**2.43. Delete the language of Article 8 and insert the following:**

Unless otherwise required in the Bidding Documents, the Agreement for the Work will be written on South Carolina Modified AIA Document A101, 2007, Standard Form of Agreement Between Owner and Contractor as modified by OSE Form 00501 – Standard Modification to Agreement Between Owner and Contractor.

2.44. Insert the following Article 9:**ARTICLE 9 MISCELLANEOUS****9.1 NONRESIDENT TAXPAYER REGISTRATION AFFIDAVIT INCOME TAX WITHHOLDING
IMPORTANT TAX NOTICE - NONRESIDENTS ONLY**

Withholding Requirements for Payments to Nonresidents: Section 12-8-550 of the South Carolina Code of Laws requires persons hiring or contracting with a nonresident conducting a business or performing personal services of a temporary nature within South Carolina to withhold 2% of each payment made to the nonresident. The withholding requirement does not apply to (1) payments on purchase orders for tangible personal property when the payments are not accompanied by services to be performed in South Carolina, (2) nonresidents who are not conducting business in South Carolina, (3) nonresidents for contracts that do not exceed \$10,000 in a calendar year, or (4) payments to a nonresident who (a) registers with either the S.C. Department of Revenue or the S.C. Secretary of State and (b) submits a Nonresident Taxpayer Registration Affidavit - Income Tax Withholding, Form I-312 to the person letting the contract.

For information about other withholding requirements (e.g., employee withholding), contact the Withholding Section at the South Carolina Department of Revenue at 803-898-5383 or visit the Department's website at: www.sctax.org

This notice is for informational purposes only. This Owner does not administer and has no authority over tax issues. All registration questions should be directed to the License and Registration Section at 803-898-5872 or to the South Carolina Department of Revenue, Registration Unit, Columbia, S.C. 29214-0140. All withholding questions should be directed to the Withholding Section at 803-898- 5383.

PLEASE SEE THE "NONRESIDENT TAXPAYER REGISTRATION AFFIDAVIT INCOME TAX WITHHOLDING" FORM (FORM NUMBER I-312) LOCATED AT:
<http://www.sctax.org/Forms+and+Instructions/withholding/default.htm>.

9.2 CONTRACTOR LICENSING

Contractors and Subcontractors listed in Section 7 of the Bid Form who are required by the South Carolina Code of Laws to be licensed, must be licensed at the time of bidding.

9.3 SUBMITTING CONFIDENTIAL INFORMATION

For every document Bidder submits in response to or with regard to this solicitation or request, Bidder must separately mark with the word "CONFIDENTIAL" every page, or portion thereof, that Bidder contends contains information that is exempt from public disclosure because it is either (a) a trade secret as defined in Section 30-4-40(a)(1), or (b) privileged & confidential, as that phrase is used in Section 11-35-410. For every document Bidder submits in response to or with regard to this solicitation or request, Bidder must separately mark with the words "TRADE SECRET" every page, or portion thereof, that Bidder contends contains a trade secret as that term is defined by Section 39-8-20 of the Trade Secrets Act. For every document Bidder submits in response to or with regard to this solicitation or request, Bidder must separately mark with the word "PROTECTED" every page, or portion thereof, that Bidder contends is protected by Section 11-35-1810. All markings must be conspicuous; use color, bold, underlining, or some other method in order to conspicuously distinguish the mark from the other text. Do not mark your entire bid as confidential, trade secret, or protected! If your bid, or any part thereof, is improperly marked as confidential or trade

OSE FORM 00201**STANDARD SUPPLEMENTAL INSTRUCTIONS TO BIDDERS**

secret or protected, the State may, in its sole discretion, determine it nonresponsive. If only portions of a page are subject to some protection, do not mark the entire page. By submitting a response to this solicitation, Bidder (1) agrees to the public disclosure of every page of every document regarding this solicitation or request that was submitted at any time prior to entering into a contract (including, but not limited to, documents contained in a response, documents submitted to clarify a response, & documents submitted during negotiations), unless the page is conspicuously marked "TRADE SECRET" or "CONFIDENTIAL" or "PROTECTED", (2) agrees that any information not marked, as required by these bidding instructions, as a "Trade Secret" is not a trade secret as defined by the Trade Secrets Act, & (3) agrees that, notwithstanding any claims or markings otherwise, any prices, commissions, discounts, or other financial figures used to determine the award, as well as the final contract amount, are subject to public disclosure. In determining whether to release documents, the State will detrimentally rely on Bidders's marking of documents, as required by these bidding instructions, as being either "Confidential" or "Trade Secret" or "PROTECTED". By submitting a response, Bidder agrees to defend, indemnify & hold harmless the State of South Carolina, its officers & employees, from every claim, demand, loss, expense, cost, damage or injury, including attorney's fees, arising out of or resulting from the State withholding information that Bidder marked as "confidential" or "trade secret" or "PROTECTED".

9.4 POSTING OF INTENT TO AWARD

Notice of Intent to Award, SE-370, will be posted at the following location:

Room or Area of Posting: Reception Area

Building Where Posted: Facilities Planning and Construction

Address of Building: 743 Greene Street, Columbia, SC 29208

WEB site address (if applicable): <http://purchasing.sc.edu>

Posting date will be announced at bid opening. In addition to posting the notice, the Owner will promptly send all responsive bidders a copy of the notice of intent to award and the final bid tabulation

9.5 PROTEST OF SOLICITATION OR AWARD

Any prospective bidder, offeror, contractor, or subcontractor who is aggrieved in connection with the solicitation of a contract shall protest within fifteen days of the date of issuance of the applicable solicitation document at issue. Any actual bidder, offeror, contractor, or subcontractor who is aggrieved in connection with the intended award or award of a contract shall protest within ten days of the date notification of intent to award is posted in accordance with Title 11, Chapter 35, Section 4210 of the South Carolina Code of Laws, as amended. A protest shall be in writing, shall set forth the grounds of the protest and the relief requested with enough particularity to give notice of the issues to be decided, and must be received by the State Engineer within the time provided.

Any protest must be addressed to the CPO, Office of State Engineer, and submitted in writing:

(a) by email to protest-ose@mmo.sc.gov,

(b) by facsimile at 803-737-0639, or

(c) by post or delivery to 1201 Main Street, Suite 600, Columbia, SC 29201.

By submitting a protest to the foregoing email address, you (and any person acting on your behalf) consent to receive communications regarding your protest (and any related protests) at the e-mail address from which you sent your protest.

9.6 SOLICITATION INFORMATION FROM SOURCES OTHER THAN OFFICIAL SOURCE

South Carolina Business Opportunities (SCBO) is the official state government publication for State of South Carolina solicitations. Any information on State agency solicitations obtained from any other source is unofficial and any reliance placed on such information is at the bidder's sole risk and is without recourse under the South Carolina Consolidated Procurement Code.

9.7 BUILDER'S RISK INSURANCE

Bidder's are directed to Article 11.3 of the South Carolina Modified AIA Document A201, 2007 Edition, which, unless provided otherwise in the bid documents, requires the contractor to provide builder's risk insurance on the project.

OSE FORM 00201**STANDARD SUPPLEMENTAL INSTRUCTIONS TO BIDDERS**

9.8 TAX CREDIT FOR SUBCONTRACTING WITH MINORITY FIRMS

Pursuant to Section 12-6-3350, taxpayers, who utilize certified minority subcontractors, may take a tax credit equal to 4% of the payments they make to said subcontractors. The payments claimed must be based on work performed directly for a South Carolina state contract. The credit is limited to a maximum of fifty thousand dollars annually. The taxpayer is eligible to claim the credit for 10 consecutive taxable years beginning with the taxable year in which the first payment is made to the subcontractor that qualifies for the credit. After the above ten consecutive taxable years, the taxpayer is no longer eligible for the credit. The credit may be claimed on Form TC-2, "Minority Business Credit." A copy of the subcontractor's certificate from the Governor's Office of Small and Minority Business (OSMBA) is to be attached to the contractor's income tax return. Taxpayers must maintain evidence of work performed for a State contract by the minority subcontractor. Questions regarding the tax credit and how to file are to be referred to: SC Department of Revenue, Research and Review, Phone: (803) 898-5786, Fax: (803) 898-5888. The subcontractor must be certified as to the criteria of a "Minority Firm" by the Governor's Office of Small and Minority Business Assistance (OSMBA). Certificates are issued to subcontractors upon successful completion of the certification process. Questions regarding subcontractor certification are to be referred to: Governor's Office of Small and Minority Business Assistance, Phone: (803) 734-0657, Fax: (803) 734-2498. Reference: SC §11-35-5010 – Definition for Minority Subcontractor & SC §11-35-5230 (B) – Regulations for Negotiating with State Minority Firms.

§ 9.9 OTHER SPECIAL CONDITIONS OF THE WORK

END OF DOCUMENT

**AIA DOCUMENT A310
BID BOND
IS AVAILABLE FOR REVIEW
AT THE OFFICE OF
FLOYD ABRAMS COMPANY**

**Floyd Abrams Company
3111 Devine Street
Columbia, SC 29205
803-343-1272**

**SE-330 – LUMP SUM BID
BID FORM**

2011 Edition
Rev. 9/21/2011

Bidders shall submit bids on only Bid Form SE-330.

BID SUBMITTED BY: _____
(Bidder's Name)

BID SUBMITTED TO: University of South Carolina, Facilities Planning and Construction
(Owner's Name)

FOR PROJECT: PROJECT NAME CRF DM Law Center
PROJECT NUMBER H27-6094-F

OFFER

§ 1. In response to the Invitation for Construction Bids and in compliance with the Instructions to Bidders for the above-named Project, the undersigned Bidder proposes and agrees, if this Bid is accepted, to enter into a Contract with the Owner on the terms included in the Bidding Documents, and to perform all Work as specified or indicated in the Bidding Documents, for the prices and within the time frames indicated in this Bid and in accordance with the other terms and conditions of the Bidding Documents.

§ 2. Pursuant to Section 11-32-3030(1) of the SC Code of Laws, as amended, Bidder has submitted Bid Security as follows in the amount and form required by the Bidding Documents:

☐ Bid Bond with Power of Attorney ☐ Electronic Bid Bond ☐ Cashier's Check

(Bidder check one)

§ 3. Bidder acknowledges the receipt of the following Addenda to the Bidding Documents and has incorporated the effects of said Addenda into this Bid:

ADDENDUM No: _____

§ 4. Bidder accepts all terms and conditions of the Invitation for Bids, including, without limitation, those dealing with the disposition of Bid Security. Bidder agrees that this Bid, including all Bid Alternates, if any, may not be revoked or withdrawn after the opening of bids, and shall remain open for acceptance for a period of 60 Days following the Bid Date, or for such longer period of time that Bidder may agree to in writing upon request of the Owner.

§ 5. Bidder herewith offers to provide all labor, materials, equipment, tools of trades and labor, accessories, appliances, warranties and guarantees, and to pay all royalties, fees, permits, licenses and applicable taxes necessary to complete the following items of construction work:

§ 6.1 **BASE BID WORK** *(as indicated in the Bidding Documents and generally described as follows):* Remove existing gravel surface BUR, Roof Areas A and D. Roof and flashing membrane tested positive for asbestos. Install new roof insulation and three-ply roof with fire-rated modified bitumen cap sheet over lightweight concrete roof deck. Roof Area B to receive fluid-applied elastomeric deck coating. Masonry parapets will be clad with sheet metal panels.

_____, which sum is hereafter called the Base Bid.
(Bidder - insert Base Bid Amount on line above)

**SE-330 – LUMP SUM BID
BID FOR**

§ 6.2 BID ALTERNATES - as indicated in the Bidding Documents and generally described as follows:

ALTERNATE # 1 (Brief Description): N/A

☐ ADD TO or ☐ DEDUCT FROM BASE BID: _____

(Bidder to Mark appropriate box to clearly indicate the price adjustment offered for each alternate)

ALTERNATE # 2 (Brief Description): N/A

☐ ADD TO or ☐ DEDUCT FROM BASE BID: _____

(Bidder to Mark appropriate box to clearly indicate the price adjustment offered for each alternate)

ALTERNATE # 3 (Brief Description): N/A

☐ ADD TO or ☐ DEDUCT FROM BASE BID: _____

(Bidder to Mark appropriate box to clearly indicate the price adjustment offered for each alternate)

BASE BID AGREEMENT

1. Portion of Base Bid as defined in Technical Specifications and Drawings:

LS \$ _____

2. Portion of Base Bid as defined in Unit Prices (Page BF-1C) and mentioned in the Scope of Work:

LS \$ _____

3. Base Bid (Total of Lines 1 and 2 above): LS \$ _____

which sum is hereinafter called the **BASE BID** and insert in paragraph 6.1, page BF-1.

UNIT PRICES TO BE INCLUDED IN BASE BID

It is anticipated the following work items and amounts will be required on this project. These items and amounts are not included in the Technical Specifications and Drawings documents. These work items shall conform to referenced standards in the Technical Specifications. If the required quantities of the items listed below are increased or decreased by Change Order, the adjustment unit prices set forth below shall apply to such increased or decreased quantities.

1. Remove disbonded or surface laitence, repair with NVS Premix and/or Zonopatch to prepare surface to receive base sheet.

2500 SF @ \$ _____/SF = \$ _____(LS)

2. Remove and dispose of damaged or disintegrated vermiculite lightweight concrete roof deck and replace with new NVS Premix lightweight concrete to match existing.

1800 SF @ \$ _____/SF = \$ _____(LS)

3. Remove and dispose of damaged or deteriorated galvanized steel form deck and replace with new 1-1/4 inches galvanized steel form deck.

1500 SF @ \$ _____/SF = \$ _____(LS)

4. Clean, wire brush and prime rusted or deteriorated galvanized steel form deck and apply two coats of Sherwin Williams ChemKromix.

1000 SF @ \$ _____/SF = \$ _____(LS)

5. Remove and dispose of damaged or deteriorated wood nailers, wood blocking and replace with new treated wood blocking to match existing.

800 BF @ \$ _____/BF = \$ _____(LS)

Total Unit Prices to be included in BASE BID

(Enter "Total Unit Prices" amount on line 2, Page BF-1B) = \$ _____(LS)

SE-330 – LUMP SUM BID BID FORM

§ 7. LISTING OF PROPOSED SUBCONTRACTORS PURSUANT TO SECTION 3020(b)(i), CHAPTER 35, TITLE 11 OF THE SOUTH CAROLINA CODE OF LAWS, AS AMENDED – (See Instructions on the following page BF-2A)

Bidder shall use the below-listed Subcontractors in the performance of the Subcontractor Specialty work listed:

SUBCONTRACTOR SPECIALTY By License Classification and/or Subclassification (Completed by Owner)	SUBCONTRACTOR'S PRIME CONTRACTOR'S NAME (Must be completed by Bidder) BASE BID	SUBCONTRACTOR'S PRIME CONTRACTOR'S SC LICENSE NUMBER
N/A		
ALTERNATE 1		
N/A		
ALTERNATE 2		
N/A		
ALTERNATE 3		
N/A		

If a Bid Alternate is accepted, Subcontractors listed for the Bid Alternate shall be used for the work of both the Alternate and the Base Bid work.

INSTRUCTIONS FOR SUBCONTRACTOR LISTING

1. Section 7 of the Bid Form sets forth a list of subcontractor specialties for which bidder is required to identify by name the subcontractor(s) Bidder will use to perform the work of each listed specialty. Bidder must identify only the subcontractor(s) who will perform the work and no others.
2. For purposes of subcontractor listing, a Subcontractor is an entity who will perform work or render service to the prime contractor to or about the construction site. Material suppliers, manufacturers, and fabricators that will not perform physical work at the site of the project but will only supply materials or equipment to the bidder or proposed subcontractor(s) are not subcontractors and Bidder should not insert their names in the spaces provided on the bid form. Likewise, Bidder should not insert the names of sub-subcontractors in the spaces provided on the bid form but only the names of those entities with which bidder will contract directly.
3. Bidder must only insert the names of subcontractors who are qualified to perform the work of the listed specialties as specified in the Bidding Documents and South Carolina Licensing Laws.
4. If under the terms of the Bidding Documents, Bidder is qualified to perform the work of a specialty listed and Bidder does not intend to subcontract such work but to use Bidder's own employees to perform such work, the Bidder must insert its own name in the space provided for that specialty.
5. If Bidder intends to use multiple subcontractors to perform the work of a single specialty listing, Bidder must insert the name of each subcontractor Bidder will use, preferably separating the name of each by the word "and". If Bidder intends to use both his own employees to perform a part of the work of a single specialty listing and to use one or more subcontractors to perform the remaining work for that specialty listing, bidder must insert his own name and the name of each subcontractor, preferably separating the name of each with the word "and".
6. Bidder may not list subcontractors in the alternative nor in a form that may be reasonably construed at the time of bid opening as a listing in the alternative. A listing that requires subsequent explanation to determine whether or not it is a listing in the alternative is non-responsive. If bidder intends to use multiple entities to perform the work for a single specialty listing, bidder must clearly set forth on the bid form such intent. Bidder may accomplish this by simply inserting the word "and" between the name of each entity listed for that specialty. Owner will reject as non-responsive a listing that contains the names of multiple subcontractors separated by a blank space, the word "or", a virgule (that is a /), or any separator that the Owner may reasonably interpret as a listing in the alternative.
7. If Bidder is awarded the contract, bidder must, except with the approval of the owner for good cause shown, use the listed entities to perform the work for which they are listed.
8. If bidder is awarded the contract, bidder will not be allowed to substitute another entity as subcontractor in place of a subcontractor listed in Section 7 of the Bid except for one or more of the reasons allowed by the SC Code of Laws.
9. Bidder's failure to insert a name for each listed specialty subcontractor will render the Bid non-responsive.

SE-330 – LUMP SUM BID BID FORM

§ 8. LIST OF MANUFACTURERS, MATERIAL SUPPLIERS, AND SUBCONTRACTORS OTHER THAN SUBCONTRACTORS LISTED IN SECTION 7 ABOVE (FOR INFORMATION ONLY): Pursuant to instructions in the Invitation for Bids, if any, Bidder will provide to Owner upon the Owner's request and within 24 hours of such request, a listing of manufacturers, material suppliers, and subcontractors, other than those listed in Section 7 above, that Bidder intends to use on the project. Bidder acknowledges and agrees that this list is provided for purposes of determining responsibility and not pursuant to the subcontractor listing requirements of SC Code Ann § 11-35-3020(b)(i).

§ 9. TIME OF CONTRACT PERFORMANCE AND LIQUIDATED DAMAGES

- a. **CONTRACT TIME:** Bidder agrees that the Date of Commencement of the Work shall be established in a Notice to Proceed to be issued by the Owner. Bidder agrees to substantially complete the Work within 150 calendar days from the Date of Commencement, subject to adjustments as provided in the Contract Documents.
- b. **LIQUIDATED DAMAGES:** Bidder further agrees that from the compensation to be paid, the Owner shall retain as Liquidated Damages the sum of \$500 for each calendar day the actual construction time required to achieve Substantial Completion exceeds the specified or adjusted time for Substantial Completion as provided in the Contract Documents. This sum is intended by the parties as the predetermined measure of compensation for actual damages, not as a penalty for nonperformance.

§ 10. AGREEMENTS

- a. Bidder agrees that this bid is subject to the requirements of the law of the State of South Carolina.
- b. Bidder agrees that at any time prior to the issuance of the Notice to Proceed for this Project, this Project may be canceled for the convenience of, and without cost to, the State.
- c. Bidder agrees that neither the State of South Carolina nor any of its agencies, employees or agents shall be responsible for any bid preparation costs, or any costs or charges of any type, should all bids be rejected or the Project canceled for any reason prior to the issuance of the Notice to Proceed.

§ 11. ELECTRONIC BID BOND

By signing below, the Principal is affirming that the identified electronic bid bond has been executed and that the Principal and Surety are firmly bound unto the State of South Carolina under the terms and conditions of the AIA Document A310, Bid Bond, included in the Bidding Documents.

Electronic Bid Bond Number: _____

Signature and Title: _____

**SE-330 – LUMP SUM BID
BID FORM**

BIDDER'S TAXPAYER IDENTIFICATION

FEDERAL EMPLOYER'S IDENTIFICATION NUMBER: _____

OR

SOCIAL SECURITY NUMBER: _____

CONTRACTOR'S CLASSIFICATIONS AND SUBCLASSIFICATIONS WITH LIMITATIONS

Classification(s) & Limits: _____

Subclassification(s) & Limits: _____

SC Contractor's License Number(s): _____

BY SIGNING THIS BID, THE PERSON SIGNING REAFFIRMS ALL REPRESENTATIONS AND CERTIFICATIONS MADE BY BOTH THE PERSON SIGNING AND THE BIDDER, INCLUDING WITHOUT LIMITATION, THOSE APPEARING IN ARTICLE 2 OF THE INSTRUCTIONS TO BIDDER. THE INVITATION FOR BIDS, AS DEFINED IN THE INSTRUCTIONS TO BIDDERS, IS EXPRESSLY INCORPORATE BY REFERENCE.

SIGNATURE

BIDDER'S LEGAL NAME: _____

ADDRESS: _____

BY: _____
(Signature)

DATE: _____

TITLE: _____

TELEPHONE: _____

EMAIL: _____

**AIA DOCUMENT A101-2007
STANDARD FORM OF AGREEMENT BETWEEN
OWNER AND CONTRACTOR
THIS DOCUMENT IS AVAILABLE
FOR REVIEW AT THE OFFICE OF
FLOYD ABRAMS COMPANY**

**Floyd Abrams Company
3111 Devine Street
Columbia, SC 29205
803-343-1272**

OSE FORM 00501 **STANDARD MODIFICATIONS TO AGREEMENT BETWEEN** **OWNER AND CONTRACTOR** ---

OWNER: University of South Carolina

PROJECT NUMBER: H27-6094-F

PROJECT NAME: CRF DM Law Center

1. STANDARD MODIFICATIONS TO AIA A101-2007

1.1. These Standard Modifications amend or supplement the *Standard Form of Agreement Between Owner and Contractor* (AIA Document A101-2007) and other provisions of Bidding and Contract Documents as indicated below.

1.2. All provisions of A101-2007, which are not so amended or supplemented, remain in full force and effect.

2. MODIFICATIONS TO A101

2.1. *Insert the following at the end of Article 1:*

Any reference in this document to the Agreement between the Owner and Contractor, AIA Document A101, or some abbreviated reference thereof, shall mean the AIA A101, 2007 Edition as modified by OSE Form 00501 – Standard Modification to Agreement Between Owner and Contractor. Any reference in this document to the General Conditions of the Contract for Construction, AIA Document A201, or some abbreviated reference thereof, shall mean the AIA A201, 2007 Edition as modified by OSE Form 00811 – Standard Supplementary Conditions.

2.2. *Delete Section 3.1 and substitute the following:*

3.1 The Date of Commencement of the Work shall be the date fixed in a Notice to Proceed issued by the Owner. The Owner shall issue the Notice to Proceed to the Contractor in writing, no less than seven days prior to the Date of Commencement. Unless otherwise provided elsewhere in the contract documents, and provided the contractor has secured all required insurance and surety bonds, the contractor may commence work immediately after receipt of the Notice to Proceed.

2.3. *Delete Section 3.2 and substitute the following:*

3.2 The Contract Time shall be measured from the Date of Commencement as provided in Section 9(a) of the Bid Form (SE-330) for this Project. Contractor agrees that if the Contractor fails to achieve Substantial Completion of the Work within the Contract Time, the Owner shall be entitled to withhold or recover from the Contractor liquidated damages in the amounts set forth in Section 9(b) of the Bid Form (SE-330), subject to adjustments of this Contract Time as provided in the Contract Documents.

2.4. *In Section 5.1.1, insert the words “and Owner” after the phrase “Payment submitted to the Architect.”*

2.5. *Delete Section 5.1.3 and substitute the following:*

5.1.3 The Owner shall make payment of the certified amount to the Contractor not later than 21 days after receipt of the Application for Payment.

2.6. *In Section 5.1.6, Insert the following after the phrase “Subject to other provisions of the Contract Documents”:*

and subject to Title 12, Chapter 8, Section 550 of the South Carolina Code of Laws, as amended
 (Withholding Requirements for Payments to Non-Residents)

In the spaces provided in Sub-Sections 1 and 2 for inserting the retainage amount, insert “three and one-half percent (3.5%).”

OSE FORM 00501**STANDARD MODIFICATIONS TO AGREEMENT BETWEEN
OWNER AND CONTRACTOR**

2.7. *In Section 5.1.8, delete the word "follows" and the colon and substitute the following:*

set forth in S.C. Code Ann. § 11-35-3030(4).

2.8. *In Section 5.1.9, delete the words "Except with the Owner's prior approval, the" before the word "Contractor."*

2.9. *In Section 5.2.2, delete the number 30 and substitute the number 21, delete everything following the words "Certificate for Payment" and place a period at the end of the resulting sentence.*

2.10. *Delete the language of Sections 6.1 and 6.2 and substitute the word "Reserved" for the deleted language of each Section.*

2.11. *Delete the language of Section 8.2 and substitute the word "Reserved."*

2.12. *In Section 8.3, make the word "Representative" in the title plural, delete everything following the title, and substitute the following:*

8.3.1 Owner designates the individual listed below as its Senior Representative ("Owner's Senior Representative"), which individual has the responsibility for and, subject to Section 7.2.1 of the General Conditions, the authority to resolve disputes under Section 15.6 of the General Conditions:

Name: Mr. Tom Opal

Title: Senior Project Manager

Address: 743 Greene St., Columbia, SC 29208

Telephone: (803) 777-7076 **FAX:** (803) 777-8739

Email: tnopal@fmc.sc.edu

8.3.2 Owner designates the individual listed below as its Owner's Representative, which individual has the authority and responsibility set forth in Section 2.1.1 of the General Conditions:

Name: Mr. Dale Branham

Title: Manager, Maintenance Support Group

Address: 743 Greene St., Columbia, SC 29208

Telephone: (803) 777-1288 **FAX:** (803) 777-7334

Email: branhamd@fmc.sc.edu

2.13. *In Section 8.4, make the word "Representative" in the title plural, delete everything following the title, and substitute the following:*

8.4.1 Contractor designates the individual listed below as its Senior Representative ("Contractor's Senior Representative"), which individual has the responsibility for and authority to resolve disputes under Section 15.6 of the General Conditions:

Name: N/A

Title: _____

Address: _____

Telephone: _____ **FAX:** _____

Email: _____

**STANDARD MODIFICATIONS TO AGREEMENT BETWEEN
OWNER AND CONTRACTOR**

8.4.2 Contractor designates the individual listed below as its Contractor's Representative, which individual has the authority and responsibility set forth in Section 3.1.1 of the General Conditions:

Name: N/A

Title: _____

Address: _____

Telephone: _____ **FAX:** _____

Email: _____

2.14. *Add the following Section 8.6.1:*

8.6.1 The Architect's representative:

Name: Floyd Abrams, RRC

Title: President

Address: 3111 Devine Street, Columbia, SC 29205

Telephone: 803-343-1272 **FAX:** 803-343-1274

Email: floydabramsc@mindspring.com

2.15. *In Section 9.1.7, Sub-Section 2, list the following documents in the space provided for listing documents:*

Invitation for Construction Bids (SE-310)

Instructions to Bidders (AIA Document A701-1997)

Standard Supplemental Instructions to Bidders (OSE Form 00201)

Contractor's Bid (Completed SE-330)

Notice of Intent to Award (Completed SE-370)

Certificate of procurement authority issued by the SC Budget & Control Board

2.16. *In Article 10, delete everything after the first sentence.*

END OF DOCUMENT

**AIA DOCUMENT A201-2007
GENERAL CONDITIONS OF
THE CONTRACT FOR CONSTRUCTION
IS AVAILABLE FOR REVIEW
AT THE OFFICE OF
FLOYD ABRAMS COMPANY**

**Floyd Abrams Company
3111 Devine Street
Columbia, SC 29205
803-343-1272**

OSE FORM 00811**STANDARD SUPPLEMENTARY CONDITIONS**

OWNER: University of South Carolina**PROJECT NUMBER:** H27-6094-F**PROJECT NAME:** CRF DM Law Center**1 GENERAL CONDITIONS**

The *General Conditions of the Contract for Construction*, AIA Document A201, 2007 Edition, Articles 1 through 15 inclusive, is a part of this Contract and is incorporated as fully as if herein set forth. For brevity, AIA Document A201 is also referred to in the Contract Documents collectively as the "General Conditions."

2 STANDARD SUPPLEMENTARY CONDITIONS

2.1 The following supplements modify, delete and/or add to the General Conditions. Where any portion of the General Conditions is modified or any paragraph, Section or clause thereof is modified or deleted by these Supplementary Conditions, the unaltered provisions of the General Conditions shall remain in effect.

2.2 Unless otherwise stated, the terms used in these Standard Supplementary Conditions which are defined in the General Conditions have the meanings assigned to them in the General Conditions.

3 MODIFICATIONS TO A201-2007

3.1 *Insert the following at the end of Section 1.1.1:*

Any reference in this document to the Agreement between the Owner and Contractor, AIA Document A101, or some abbreviated reference thereof, shall mean the AIA A101, 2007 Edition as modified by OSE Form 00501 – Standard Modification to Agreement Between Owner and Contractor. Any reference in this document to the General Conditions of the Contract for Construction, AIA Document A201, or some abbreviated reference thereof, shall mean the AIA A201, 2007 Edition as modified by OSE Form 00811 – Standard Supplementary Conditions.

3.2 *Delete the language of Section 1.1.8 and substitute the word "Reserved."*

3.3 *Add the following Section 1.1.9:*

1.1.9 NOTICE TO PROCEED

Notice to Proceed is a document issued by the Owner to the Contractor, with a copy to the Architect, directing the Contractor to begin prosecution of the Work in accordance with the requirements of the Contract Documents. The Notice to Proceed shall fix the date on which the Contract Time will commence.

3.4 *Insert the following at the end of Section 1.2.1:*

In the event of patent ambiguities within or between parts of the Contract Documents, the contractor shall 1) provide the better quality or greater quantity of Work, or 2) comply with the more stringent requirement, either or both in accordance with the Architect's interpretation.

3.5 *Delete Section 1.5.1 and substitute the following:*

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

OSE FORM 00811**STANDARD SUPPLEMENTARY CONDITIONS**

3.6 *Delete Section 2.1.1 and substitute the following:*

2.1.1 The Owner is the person or entity identified as such in the Agreement and is referred to throughout the Contract Documents as if singular in number. The Owner shall designate in writing a representative who shall have express authority to bind the Owner with respect to all matters requiring the Owner's approval or authorization, except as provided in Section 7.1.2. Except as otherwise provided in Section 4.2.1, the Architect does not have such authority. The term "Owner" means the Owner or the Owner's Representative. [Reference § 8.2 of the Agreement.]

3.7 *Delete Section 2.1.2 and substitute the following:*

2.1.2 The Owner shall furnish to the Contractor within fifteen days after receipt of a written request, information necessary and relevant for the Contractor to post Notice of Project Commencement pursuant to Title 29, Chapter 5, Section 23 of the South Carolina Code of Laws, as amended..

3.8 *Delete Section 2.2.3 and substitute the following:*

2.2.3 The Owner shall furnish surveys describing physical characteristics, legal limitations and utility locations for the site of the Project, and a legal description of the site. Subject to the Contractor's obligations, including those in Section 3.2, the Contractor shall be entitled to rely on the accuracy of information furnished by the Owner pursuant to this Section but shall exercise proper precautions relating to the safe performance of the Work.

3.9 *Replace the period at the end of the last sentence of Section 2.2.4 with a semicolon and insert the following after the inserted semicolon:*

"however, the Owner does not warrant the accuracy of any such information requested by the Contractor that is not otherwise required of the Owner by the Contract Documents. Neither the Owner nor the Architect shall be required to conduct investigations or to furnish the Contractor with any information concerning subsurface characteristics or other conditions of the area where the Work is to be performed beyond that which is provide in the Contract Documents."

3.10 *Delete Section 2.2.5 and substitute the following:*

2.2.5 Unless otherwise provided in the Contract Documents, the Owner shall furnish to the Contractor with ten copies of the Contract Documents. The Contractor may make reproductions of the Contract Documents pursuant to Section 1.5.2. All copies of the drawings and specifications, except the Contractor's record set, shall be returned or suitably accounted for to the Owner, on request, upon completion of the Work.

3.11 *Add the following Sections 2.2.6 and 2.2.7:*

2.2.6 The Owner assumes no responsibility for any conclusions or interpretation made by the Contractor based on information made available by the Owner.

2.2.7 The Owner shall obtain, at its own cost, general building and specialty inspection services as required by the Contract Documents. The Contractor shall be responsible for payment of any charges imposed for reinspections.

3.12 *Delete Section 2.4 and substitute the following:*

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

OSE FORM 00811**STANDARD SUPPLEMENTARY CONDITIONS**

3.13 *Insert the following at the end of Section 3.2.1:*

The Contractor acknowledges that it has investigated and satisfied itself as to the general and local conditions which can affect the work or its cost, including but not limited to (1) conditions bearing upon transportation, disposal, handling, and storage of materials; (2) the availability of labor, water, electric power, and roads; (3) uncertainties of weather, river stages, tides, or similar physical conditions at the site; (4) the conformation and conditions of the ground; and (5) the character of equipment and facilities needed preliminary to and during work performance. The Contractor also acknowledges that it has satisfied itself as to the character, quality, and quantity of surface and subsurface materials or obstacles to be encountered insofar as this information is reasonably ascertainable from an inspection of the site, including all exploratory work done by the Owner, as well as from the drawings and specifications made a part of this contract. Any failure of the Contractor to take the actions described and acknowledged in this paragraph will not relieve the Contractor from responsibility for estimating properly the difficulty and cost of successfully performing the work, or for proceeding to successfully perform the work without additional expense to the Owner.

3.14 *In the third sentence of Section 3.2.4, insert the word "latent" before the word "errors."***3.15** *In the last sentence of Section 3.3.1, insert the words "by the Owner in writing" after the word "instructed."***3.16** *Delete the third sentence of Section 3.5 and substitute the following sentences:*

Work, materials, or equipment not conforming to these requirements shall be considered defective. Unless caused by the Contractor or a subcontractor at any tier, the Contractor's warranty excludes remedy for damage or defect caused by abuse, alterations to the Work not executed by the Contractor, improper or insufficient maintenance, improper operation, or normal wear and tear and normal usage.

3.17 *Insert the following at the end of Section 3.6:*

The Contractor shall comply with the requirements of Title 12, Chapter 9 of the South Carolina Code of Laws, as amended, regarding withholding tax for nonresidents, employees, contractors and subcontractors.

3.18 *In Section 3.7.1, delete the words "the building permit as well as for other" and insert the following sentence at the end of this section:*

Pursuant to Title 10, Chapter 1, Section 180 of the South Carolina Code of Laws, as amended, no local general or specialty building permits are required for state buildings.

3.19 *Delete the last sentence of Section 3.7.5 and substitute the following:*

Adjustments in the Contract Sum and Contract Time arising from the existence of such remains or features may be made as provided in Article 7.3.3.

3.20 *Delete the last sentence of Section 3.8.2.3 and substitute the following:*

The amount of the Change Order shall reflect the difference between actual costs, as documented by invoices, and the allowances under Section 3.8.2.1.

3.21 *In Section 3.9.1, insert a comma after the word "superintendent" in the first sentence and insert the following after the inserted comma:*

acceptable to the Owner,

3.22 *Delete Section 3.9.2 and substitute the following:*

3.9.2 The Contractor, as soon as practicable after award of the Contract, shall furnish in writing to the Owner the name and qualifications of a proposed superintendent. The Owner may reply within 14 days to the Contractor in writing stating (1) whether the Owner has reasonable objection to the proposed superintendent or (2) that the

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Owner requires additional time to review. Failure of the Owner to reply within the 14-day period shall constitute notice of no reasonable objection.

3.23 *After the first sentence in Section 3.9.3, insert the following sentence:*

The Contractor shall notify the Owner, in writing, of any proposed change in the superintendent, including the reason therefore, prior to making such change.

3.24 *Delete Section 3.10.3 and substitute the following:*

3.10.3 Additional requirements, if any, for the constructions schedule are as follows:
(Check box if applicable to this Contract))

☐ The construction schedule shall be in a detailed precedence-style critical path management (CPM) or primavera-type format satisfactory to the Owner and the Architect that shall also (1) provide a graphic representation of all activities and events that will occur during performance of the work; (2) identify each phase of construction and occupancy; and (3) set forth dates that are critical in ensuring the timely and orderly completion of the Work in accordance with the requirements of the Contract Documents (hereinafter referred to as "Milestone Dates"). Upon review and acceptance by the Owner and the Architect of the Milestone Dates, the construction schedule shall be deemed part of the Contract Documents and attached to the Agreement as Exhibit "A." If not accepted, the construction schedule shall be promptly revised by the Contractor in accordance with the recommendations of the Owner and the Architect and resubmitted for acceptance. The Contractor shall monitor the progress of the Work for conformance with the requirements of the construction schedule and shall promptly advise the Owner of any delays or potential delays. Whenever the approved construction schedule no longer reflects actual conditions and progress of the work or the Contract Time is modified in accordance with the terms of the Contract Documents, the Contractor shall update the accepted construction schedule to reflect such conditions. In the event any progress report indicates any delays, the Contractor shall propose an affirmative plan to correct the delay, including overtime and/or additional labor, if necessary. In no event shall any progress report constitute an adjustment in the Contract Time, any Milestone Date, or the Contract Sum unless any such adjustment is agreed to by the Owner and authorized pursuant to Change Order.

3.25 *Add the following Section 3.10.4:*

3.10.4 Owner's review and acceptance of Contractor's schedule is not conducted for the purpose of either determining its accuracy and completeness or approving the construction means, methods, techniques, sequences or procedures. The Owner's approval shall not relieve the Contractor of any obligations. Unless expressly addressed in a Modification, the Owner's approval of a schedule shall not change the Contract Time.

3.26 *Add the following Section 3.12.5.1:*

3.12.5.1 The fire sprinkler shop drawings shall be prepared by a licensed fire sprinkler contractor and shall accurately reflect actual conditions affecting the required layout of the fire sprinkler system. The fire sprinkler contractor shall certify the accuracy of his shop drawings prior to submitting them for review and approval. The fire sprinkler shop drawings shall be reviewed and approved by the Architect's engineer of record who, upon approving the sprinkler shop drawings will submit them to the State Fire Marshal or other authorities having jurisdiction for review and approval. The Architect's engineer of record will submit a copy of the State Fire Marshal's approval letter to the Contractor, Architect, and OSE. Unless authorized in writing by OSE, neither the Contractor nor subcontractor at any tier shall submit the fire sprinkler shop drawings directly to the State Fire Marshal or other authorities having jurisdiction for approval.

3.27 *In the fourth sentence of Section 3.12.10, after the comma following the words "licensed design professional," insert the following:*

who shall comply with reasonable requirements of the Owner regarding qualifications and insurance and

3.28 *In Section 3.13, insert the section number "3.13.1" before the opening words "The Contractors shall."*

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3.29 Add the following Sections 3.13.2 and 3.13.3:

3.13.2 Protection of construction materials and equipment stored at the Project site from weather, theft, vandalism, damage, and all other adversity is solely the responsibility of the Contractor. The Contractor shall perform the work in a manner that affords reasonable access, both vehicular and pedestrian, to the site of the Work and all adjacent areas. The Work shall be performed, to the fullest extent reasonably possible, in such a manner that public areas adjacent to the site of the Work shall be free from all debris, building materials, and equipment likely to cause hazardous conditions.

3.13.3 The Contractor and any entity for whom the Contractor is responsible shall not erect any sign on the Project site without the prior written consent of the Owner.

3.30 *In the first sentence of Section 3.18.1, after the parenthetical "... (other than the Work itself), ..." and before the word "...but...", insert the following:*

including loss of use resulting therefrom,

3.31 *Delete Section 4.1.1 and substitute the following:*

4.1.1 The Architect is that person or entity identified as the Architect in the Agreement and is referred to throughout the Contract Documents as if singular in number.

3.32 *Insert the following at the end of Section 4.2.1:*

Any reference in the Contract Documents to the Architect taking action or rendering a decision with a "reasonable time" is understood to mean no more than fourteen days, unless otherwise specified in the Contract Documents or otherwise agreed to by the parties.

3.33 *Delete the first sentence of Section 4.2.2 and substitute the following:*

The Architect will visit the site as necessary to fulfill its obligation to the Owner for inspection services, if any, and, at a minimum, to assure conformance with the Architect's design as shown in the Contract Documents and to observe the progress and quality of the various components of the Contractor's Work, and to determine if the Work observed is being performed in a manner indicating that the Work, when fully completed, will be in accordance with the Contract Documents.

3.34 *Delete the first sentence of Section 4.2.3 and substitute the following:*

On the basis of the site visits, the Architect will keep the Owner informed about the progress and quality of the portion of the Work completed, and report to the Owner (1) deviations from the Contract Documents and from the most recent construction schedule submitted by the Contractor, and (2) defects and deficiencies observed in the Work.

3.35 *In Section 4.2.5, after the words "evaluations of the" and before the word "Contractor's," insert the following:*

Work completed and correlated with the

3.36 *Delete the first sentence of Section 4.2.11 and substitute the following:*

4.2.11 The Architect will, in the first instance, interpret and decide matters concerning performance under, and requirements of, the Contract Documents on written request of either the Owner or Contractor. Upon receipt of such request, the Architect will promptly provide the non-requesting party with a copy of the request.

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3.37 *Insert the following at the end of Section 4.2.12:*

If either party disputes the Architects interpretation or decision, that party may proceed as provided in Article 15. The Architect's interpretations and decisions may be, but need not be, accorded any deference in any review conducted pursuant to law or the Contract Documents.

3.38 *Delete Section 4.2.14 and substitute the following:*

The Architect will review and respond to requests for information about the Contract Documents so as to avoid delay to the construction of the Project. The Architect's response to such requests will be made in writing with reasonable promptness. If appropriate, the Architect will prepare and issue supplemental Drawings and Specifications in response to the requests for information. Any response to a request for information must be consistent with the intent of, and reasonably inferable from, the Contract Documents and will be in writing or in the form of drawings. Unless issued pursuant to a Modification, supplemental Drawings or Specifications will not involve an adjustment to the Contract Sum or Contract Time.

3.39 *Delete Section 5.2.1 and substitute the following:*

5.2.1 Unless otherwise stated in the Contract Documents or the bidding requirements, the Contractor, within fourteen days after posting of the Notice of Intent to Award the Contract, shall furnish in writing to the Owner through the Architect the names of persons or entities (excluding Listed Subcontractors but including those who are to furnish materials or equipment fabricated to a special design) proposed for each principal portion of the Work. The Owner may reply within 14 days to the Contractor in writing stating (1) whether the Owner has reasonable objection to any such proposed person or entity. Failure of the Owner to reply within the 14 day period shall constitute notice of no reasonable objection.

3.40 *Delete Section 5.2.2 and substitute the following:*

5.2.2 The Contractor shall not contract with a proposed person or entity to whom the Owner has made reasonable and timely objection. The Owner shall not direct the Contractor to contract with any specific individual or entity for supplies or services unless such supplies and services are necessary for completion of the Work and the specified individual or entity is the only source of such supply or services.

3.41 *In the first sentence of Section 5.2.3, delete the words "...or Architect..." in the two places they appear.***3.42** *Delete the words "...or Architect..." in the in the first sentence of Section 5.2.4 and insert the following sentence at the end of Section 5.2.4:*

The Contractor's request for substitution must be made to the Owner in writing accompanied by supporting information.

3.43 *Add the following Section 5.2.5:*

5.2.5 A Subcontractor identified in the Contractor's Bid in response the specialty subcontractor listing requirements of Section 7 of the Bid Form (SE-330) may only be substituted in accordance with and as permitted by the provisions of Title 11, Chapter 35, Section 3021 of the South Carolina Code of Laws, as amended. A proposed substitute for a Listed Subcontractor shall be subject to the Owner's approval as set forth in Section 5.2.3.

3.44 *In Section 5.3, delete everything following the heading "SUBCONTRACTUAL RELATIONS" and insert the following Sections 5.3.1, 5.3.2, 5.3.3, and 5.3.4:*

5.3.1 By appropriate written agreement, the Contractor shall require each Subcontractor, to the extent of the Work to be performed by the Subcontractor, to be bound to the Contractor by terms of the Contract Documents, and to assume toward the Contractor all the obligations and responsibilities, including the responsibility for safety of the Subcontractor's Work, which the Contractor, by these Documents, assumes toward the Owner and Architect. Each subcontract agreement shall preserve and protect the rights of the Owner and Architect under the Contract Documents with respect to the Work to be performed by the Subcontractor so that subcontracting thereof will not

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prejudice such rights, and shall allow to the Subcontractor, unless specifically provided otherwise herein or in the subcontract agreement, the benefit of all rights, remedies and redress against the Contractor that the Contractor, by the Contract Documents, has against the Owner. Where appropriate, the Contractor shall require each Subcontractor to enter into similar agreements with Sub-subcontractors. The Contractor shall make available to each proposed Subcontractor, prior to the execution of the subcontract agreement, copies of the Contract Documents to which the Subcontractor will be bound, and, upon written request of the Subcontractor, identify to the Subcontractor terms and conditions of the proposed subcontract agreement that may be at variance with the Contract Documents. Subcontractors will similarly make copies of applicable portions of such documents available to their respective proposed Sub-subcontractors.

§ 5.3.2 Without limitation on the generality of Section 5.3.1, each Subcontract agreement and each Sub-subcontract agreement shall include, and shall be deemed to include, the following Sections of these General Conditions: 3.2, 3.5, 3.18, 5.3, 5.4, 6.2.2, 7.3.3, 7.5, 7.6, 13.1, 13.12, 14.3, 14.4, and 15.1.6.

§ 5.3.3 Each Subcontract Agreement and each Sub-subcontract agreement shall exclude, and shall be deemed to exclude, Sections 13.2.1 and 13.6 and all of Article 15, except Section 15.1.6, of these General Conditions. In the place of these excluded sections of the General Conditions, each Subcontract Agreement and each Sub-subcontract may include Sections 13.2.1 and 13.6 and all of Article 15, except Section 15.1.6, of AIA Document A201-2007, Conditions of the Contract, as originally issued by the American Institute of Architects.

§ 5.3.4 The Contractor shall assure the Owner that all agreements between the Contractor and its Subcontractor incorporate the provisions of Subparagraph 5.3.1 as necessary to preserve and protect the rights of the Owner and the Architect under the Contract Documents with respect to the work to be performed by Subcontractors so that the subcontracting thereof will not prejudice such rights. The Contractor's assurance shall be in the form of an affidavit or in such other form as the Owner may approve. Upon request, the Contractor shall provide the Owner or Architect with copies of any or all subcontracts or purchase orders.

3.45 *Delete the last sentence of Section 5.4.1.*

3.46 *Add the following Sections 5.4.4, 5.4.5 and 5.4.6:*

§ 5.4.4 Each subcontract shall specifically provide that the Owner shall only be responsible to the subcontractor for those obligations of the Contractor that accrue subsequent to the Owner's exercise of any rights under this conditional assignment.

§ 5.4.5 Each subcontract shall specifically provide that the Subcontractor agrees to perform portions of the Work assigned to the Owner in accordance with the Contract Documents.

§ 5.4.6 Nothing in this Section 5.4 shall act to reduce or discharge the Contractor's payment bond surety's obligations to claimants for claims arising prior to the Owner's exercise of any rights under this conditional assignment.

3.47 *Delete the language of Section 6.1.4 and substitute the word "Reserved."*

3.48 *Insert the following at the end of Section 7.1.2:*

If the amount of a Modification exceeds the limits of the Owner's Construction Change Order Certification (reference Section 9.1.7.2 of the Agreement), then the Owner's agreement is not effective, and Work may not proceed, until approved in writing by the Office of State Engineer.

3.49 *Delete Section 7.2.1 and substitute the following:*

7.2.1 A Change Order is a written instrument prepared by the Architect (using State Form SE-480 "Construction Change Order") and signed by the Owner, Contractor and Architect stating their agreement upon all of the following:

- .1 The change in the Work;

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

3.50 *Add the following Sections 7.2.2, 7.2.3, 7.2.4, and 7.2.5:*

7.2.2 If a Change Order provides for an adjustment to the Contract Sum, the adjustment must be calculated in accordance with Section 7.3.3.

7.2.3 At the Owner's request, the Contractor shall prepare a proposal to perform the work of a proposed Change Order setting forth the amount of the proposed adjustment, if any, in the Contract Sum; and the extent of the proposed adjustment, if any, in the Contract Time. Any proposed adjustment in the Contract sum shall be prepared in accordance with Section 7.2.2. The Owner's request shall include any revisions to the Drawings or Specifications necessary to define any changes in the Work. Within fifteen days of receiving the request, the Contractor shall submit the proposal to the Owner and Architect along with all documentation required by Section 7.6.

7.2.4 If the Contractor requests a Change Order, the request shall set forth the proposed change in the Work and shall be prepared in accordance with Section 7.2.3. If the Contractor requests a change to the Work that involves a revision to either the Drawings or Specifications, the Contractor shall reimburse the Owner for any expenditures associated with the Architects' review of the proposed revisions, except to the extent the revisions are accepted by execution of a Change Order.

7.2.5 Agreement on any Change Order shall constitute a final settlement of all matters relating to the change in the Work that is the subject of the Change Order, including, but not limited to, any adjustments to the Contract Sum or the Contract Time.

3.51 *Delete 7.3.3 and substitute the following:***7.3.3 PRICE ADJUSTMENTS**

§ 7.3.3.1 If any Modification, including a Construction Change Directive, provides for an adjustment to the Contract Sum, the adjustment shall be based on whichever of the following methods is the most valid approximation of the actual cost to the contractor, with overhead and profit as allowed by Section 7.5:

- .1 Mutual acceptance of a lump sum;
- .2 Unit prices stated in the Contract Documents, except as provided in Section 7.3.4, or subsequently agreed upon;
- .3 Cost attributable to the events or situations under applicable clauses with adjustment of profits or fee, all as specified in the contract, or subsequently agreed upon by the parties, or by some other method as the parties may agree; or
- .4 As provided in Section 7.3.7.

§ 7.3.3.2 Consistent with Section 7.6, costs must be properly itemized and supported by substantiating data sufficient to permit evaluation before commencement of the pertinent performance or as soon after that as practicable. All costs incurred by the Contractor must be justifiably compared with prevailing industry standards. Except as provided in Section 7.5, all adjustments to the Contract Price shall be limited to job specific costs and shall not include indirect costs, overhead, home office overhead, or profit.

3.52 *Delete Section 7.3.7 and substitute the following:*

7.3.7 If the Contractor does not respond promptly or disagrees with the method for adjustment in the Contract Sum, the Architect shall make an initial determination, consistent with Section 7.3.3, of the method and the adjustment on the basis of reasonable expenditures and savings of those performing the Work attributable to the change, including, in case of an increase in the Contract Sum, an amount for overhead and profit as set forth in Section 7.5. In such case, and also under Section 7.3.3.1.3, the Contractor shall keep and present, in such form as the Architect may prescribe, an itemized accounting together with appropriate supporting data. Unless otherwise provided in the Contract Documents, costs for the purposes of this Section 7.3.7 shall be limited to the following:

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

3.53 *Delete Section 7.3.8 and substitute the following:*

7.3.8 Using the percentages stated in Section 7.5, any adjustment to the Contract Sum for deleted work shall include any overhead and profit attributable to the cost for the deleted Work.

3.54 *Add the following Sections 7.5 and 7.6:***7.5 AGREED OVERHEAD AND PROFIT RATES**

7.5.1 For any adjustment to the Contract Sum for which overhead and profit may be recovered, other than those made pursuant to Unit Prices stated in the Contract Documents, the Contractor agrees to charge and accept, as full payment for overhead and profit, the following percentages of costs attributable to the change in the Work. The percentages cited below shall be considered to include all indirect costs including, but not limited to: field and office managers, supervisors and assistants, incidental job burdens, small tools, and general overhead allocations. The allowable percentages for overhead and profit are as follows:

- .1 To the Contractor for work performed by the Contractor's own forces, 17% of the Contractor's actual costs.
- .2 To each Subcontractor for work performed by the Subcontractor's own forces, 17% of the subcontractor's actual costs.
- .3 To the Contractor for work performed by a subcontractor, 10% of the subcontractor's actual costs (not including the subcontractor's overhead and profit).

7.6 PRICING DATA AND AUDIT**§ 7.6.1 Cost or Pricing Data.**

Upon request of the Owner or Architect, Contractor shall submit cost or pricing data prior to execution of a Modification which exceeds \$500,000. Contractor shall certify that, to the best of its knowledge and belief, the cost or pricing data submitted is accurate, complete, and current as of a mutually determined specified date prior to the date of pricing the Modification. Contractor's price, including profit, shall be adjusted to exclude any significant sums by which such price was increased because Contractor furnished cost or pricing data that was inaccurate, incomplete, or not current as of the date specified by the parties. Notwithstanding Subparagraph 9.10.4, such adjustments may be made after final payment to the Contractor.

§ 7.6.2 Cost or pricing data means all facts that, as of the date specified by the parties, prudent buyers and sellers would reasonably expect to affect price negotiations significantly. Cost or pricing data are factual, not judgmental; and are verifiable. While they do not indicate the accuracy of the prospective contractor's judgment about estimated future costs or projections, they do include the data forming the basis for that judgment. Cost or pricing data are more than historical accounting data; they are all the facts that can be reasonably expected to contribute to the soundness of estimates of future costs and to the validity of determinations of costs already incurred.

§ 7.6.3 Records Retention.

As used in Section 7.6, the term "records" means any books or records that relate to cost or pricing data that Contractor is required to submit pursuant to Section 7.6.1. Contractor shall maintain records for three years from the date of final payment, or longer if requested by the chief procurement officer. The Owner may audit Contractor's records at reasonable times and places.

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3.55 Delete Section 8.2.2 and substitute the following:

8.2.2 The Contractor shall not knowingly commence operations on the site or elsewhere prior to the effective date of surety bonds and insurance required by Article 11 to be furnished by the Contractor and Owner. The date of commencement of the Work shall not be changed by the effective date of such surety bonds or insurance.

3.56 Delete Section 8.3.1 and substitute the following:

8.3.1 If the Contractor is delayed at any time in the commencement or progress of the Work by an act or neglect of the Owner or Architect, or of an employee of either, or of a separate contractor employed by the Owner; or by changes ordered in the Work; or by labor disputes, fire, unusual delay in deliveries, unavoidable casualties or other causes beyond the control of the Contractor and any subcontractor at any tier; or by delay authorized by the Owner pending dispute resolution; or by other causes that the Architect determines may justify delay, then to the extent such delay will prevent the Contractor from achieving Substantial Completion within the Contract Time and provided the delay (1) is not caused by the fault or negligence of the Contractor or a subcontractor at any tier and (2) is not due to unusual delay in the delivery of supplies, machinery, equipment, or services when such supplies, machinery, equipment, or services were obtainable from other sources in sufficient time for the Contractor to meet the required delivery, the Contract Time shall be extended by Change Order for such reasonable time as the Architect may determine.

3.57 Insert the following at the end of Section 9.1:

All changes to the Contract Sum shall be adjusted in accordance with Section 7.3.3.

3.58 Delete Section 9.2 and substitute the following:**9.2 SCHEDULE OF VALUES**

9.2.1 The Contractor shall submit to the Architect, within ten days of full execution of the Agreement, a schedule of values allocating the entire Contract Sum to the various portions of the Work and prepared in such form and supported by such data to substantiate its accuracy as the Architect may require. This schedule, unless objected to by the Architect, shall be used as a basis for reviewing the Contractor's Applications for Payment. As requested by the Architect, the Contractor and each Subcontractor shall prepare a trade payment breakdown for the Work for which each is responsible, such breakdown being submitted on a uniform standardized format approved by the Architect and Owner. The breakdown shall be divided in detail, using convenient units, sufficient to accurately determine the value of completed Work during the course of the Project. The Contractor shall update the schedule of values as required by either the Architect or Owner as necessary to reflect:

- .1 the description of Work (listing labor and material separately);
- .2 the total value;
- .3 the percent and value of the Work completed to date;
- .4 the percent and value of previous amounts billed; and
- .5 the current percent completed and amount billed.

9.2.2 Any schedule of values or trade breakdown that fails to include sufficient detail, is unbalanced, or exhibits "front-loading" of the value of the Work shall be rejected. If a schedule of values or trade breakdown is used as the basis for payment and later determined to be inaccurate, sufficient funds shall be withheld from future Applications for Payment to ensure an adequate reserve (exclusive of normal retainage) to complete the Work.

3.59 Delete Section 9.3.1 and substitute the following:

Monthly, the Contractor shall submit to the Architect an itemized Application for Payment prepared in accordance with the schedule of values, if required under Section 9.2., for completed portions of the Work. Such application shall be notarized, if required, and supported by such data substantiating the Contractor's right to payment as the Owner or Architect may require (such as copies of requisitions from Subcontractors and material suppliers) and shall reflect retainage and any other adjustments provided in Section 5 of the Agreement. If required by the Owner or Architect, the Application for Payment shall be accompanied by a current construction schedule.

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- 3.60** In Section 9.3.2, add the following words to the end of the second sentence:

provided such materials or equipment will be subsequently incorporated in the Work

Insert the following at the end of Section 9.3.2:

The Contractor shall 1) protect such materials from diversion, vandalism, theft, destruction, and damage, 2) mark such materials specifically for use on the Project, and 3) segregate such materials from other materials at the storage facility. The Architect and the Owner shall have the right to make inspections of the storage areas at any time.

- 3.61** *In Section 9.4.2, in the first sentence, after the words "Work has progressed to the point indicated," insert the following:*

in both the Application for Payment and, if required to be submitted by the Contractor, the accompanying current construction schedule

In the last sentence, delete the third item starting with "(3) reviewed copies" and ending with "Contractor's right to payment,"

- 3.62** *In Section 9.5.1, in the first sentence, delete the word "may" after the opening words "The Architect" and substitute the word "shall."*

In Section 9.5.1, insert the following sentence after the first sentence:

The Architect shall withhold a Certificate of Payment if the Application for Payment is not accompanied by the current construction schedule required by Section 3.10.1.

- 3.63** *In Section 9.6.2, delete the word "The..." at the beginning of the first sentence and substitute the following:*

Pursuant to Chapter 6 of Title 29 of the South Carolina Code of Laws, as amended, the

- 3.64** *Delete Section 9.7 and substitute following:*

9.7 FAILURE OF PAYMENT

If the Architect does not issue a Certificate for Payment to the Owner, through no fault of the Contractor, within seven days after receipt of the Contractor's Application for Payment, or if the Owner does not pay the Contractor within seven days after the time established in the Contract Documents the amount certified by the Architect or awarded by a final dispute resolution order, then the Contractor may, upon seven additional days' written notice to the Owner and Architect, stop the Work until payment of the amount owing has been received. The Contract Time shall be extended appropriately and the Contract Sum shall be increased, in accordance with the provisions of Section 7.3.3, by the amount of the Contractor's reasonable costs of shut-down, delay and start-up, plus interest as provided for in the Contract Documents.

- 3.65** *Insert the following words at the end of the sentence in Section 9.8.1:*

and when all required occupancy permits, if any, have been issued and copies of same have been delivered to the Owner.

- 3.66** *In Section 9.8.2, insert the word "written" after the word "comprehensive" and before the word "list."*

- 3.67** *Delete Section 9.8.3 and substitute the following:*

9.8.3.1 Upon receipt of the Contractor's list, the Architect, with the Owner and any other person the Architect or the Owner choose, will make an inspection on a date and at a time mutually agreeable to the Architect, Owner, and Contractor, to determine whether the Work or designated portion thereof is substantially complete. The Contractor shall furnish access for the inspection and testing as provided in this Contract. The inspection shall include a

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demonstration by the Contractor that all equipment, systems and operable components of the Work function properly and in accordance with the Contract Documents. If the Architect's inspection discloses any item, whether or not included on the Contractor's list, which is not sufficiently complete in accordance with the Contract Documents so that the Owner can occupy or utilize the Work or designated portion thereof for its intended use, the Contractor shall, before issuance of the Certificate of Substantial Completion, complete or correct such item upon notification by the Architect. In such case, the Contractor shall then submit a request for another inspection by the Architect to determine Substantial Completion. If more than one Substantial Completion inspection is required, the Contractor shall reimburse the Owner for all costs of reinspections or, at the Owner's option, the costs may be deducted from payments due to the Contractor.

9.8.3.2 If the Architect and Owner concur in the Contractor's assessment that the Work or a portion of the Work is safe to occupy, the Owner and Contractor may arrange for a Certificate of Occupancy Inspection by OSE. The Owner, Architect, and Contractor shall be present at OSE's inspection. Upon verifying that the Work or a portion of the Work is substantially complete and safe to occupy, OSE will issue, as appropriate, a Full or Partial Certificate of Occupancy.

3.68 *In the second sentence of Section 9.8.5, delete the words "and consent of surety, if any."*

3.69 *In the first sentence of Section 9.9.1, delete the words "Section 11.3.1.5" and substitute the words "Section 11.3.1.3."*

3.70 *Delete Section 9.10.1 and substitute the following:*

9.10.1 Unless the parties agree otherwise in the Certificate of Substantial Completion, the Contractor shall achieve Final Completion no later than thirty days after Substantial Completion. Upon receipt of the Contractor's written notice that the Work is ready for final inspection and acceptance and upon receipt of a final Application for Payment, the Architect, with the Owner and any other person the Architect or the Owner choose, will make an inspection on a date and at a time mutually agreeable to the Architect, Owner, and Contractor, and, when the Architect finds the Work acceptable under the Contract Documents and the Contract fully performed, the Architect will promptly issue a final Certificate for Payment stating that to the best of the Architect's knowledge, information and belief, and on the basis of the Architect's on-site visits and inspections, the Work has been completed in accordance with terms and conditions of the Contract Documents and that the entire balance found to be due the Contractor and noted in the final Certificate is due and payable. The Architect's final Certificate for Payment will constitute a further representation that conditions listed in Section 9.10.2 as precedent to the Contractor's being entitled to final payment have been fulfilled. If more than one Final Completion inspection is required, the Contractor shall reimburse the Owner for all costs of reinspections or, at the Owner's option, the costs may be deducted from payments due to the Contractor. If the Contractor does not achieve final completion within thirty days after Substantial Completion or the timeframe agreed to by the parties in the Certificate of Substantial Completion, whichever is greater, the Contractor shall be responsible for any additional Architectural fees resulting from the delay.

3.71 *Delete the first sentence of Section 9.10.2 and substitute the following:*

Neither final payment nor any remaining retained percentage shall become due until the Contractor submits to the Architect (1) an affidavit that payrolls, bills for materials and equipment, and other indebtedness connected with the Work for which the Owner or the Owner's property might be responsible or encumbered (less amounts withheld by Owner) have been paid or otherwise satisfied, (2) a certificate evidencing that insurance required by the Contract Documents to remain in force after final payment is currently in effect and will not be canceled or allowed to expire until at least 30 days' prior written notice has been given to the Owner, (3) a written statement that the Contractor knows of no substantial reason that the insurance will not be renewable to cover the period required by the Contract Documents, (4) consent of surety, if any, to final payment (5), if required by the Owner, other data establishing payment or satisfaction of obligations, such as receipts, releases and waivers of liens, claims, security interests or encumbrances arising out of the Contract, to the extent and in such form as may be designated by the Owner, (6) required Training Manuals, (7) equipment Operations and Maintenance Manuals, (8) any certificates of testing, inspection or approval required by the Contract Documents and not previously provided (9) all warranties and guarantees required under or pursuant to the Contract Documents, and (10) one copy of the Documents required by Section 3.11.

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- 3.72** Delete the first sentence of Section 9.10.3 and substitute the following:

If, after Substantial Completion of the Work, final completion thereof is delayed 60 days through no fault of the Contractor or by issuance of Change Orders affecting final completion, and the Architect so confirms, the Owner shall, upon application by the Contractor and certification by the Architect, and without terminating the Contract, make payment of the balance due for that portion of the Work fully completed and accepted.

- 3.73** Delete Section 9.10.5 and substitute the following:

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

- 3.74** Add the following Section 9.10.6:

9.10.6 If OSE has not previously issued a Certificate of Occupancy for the entire Project, the Parties shall arrange for a representative of OSE to participate in the Final Completion Inspection. Representatives of the State Fire Marshal's Office and other authorities having jurisdiction may be present at the Final Completion Inspection or otherwise inspect the completed Work and advise the Owner whether the Work meets their respective requirements for the Project.

- 3.75** Delete Section 10.3.1 and substitute the following:

10.3.1 If the Contractor encounters a hazardous material or substance which was not discoverable as provided in Section 3.2.1 and not required by the Contract Documents, and if reasonable precautions will be inadequate to prevent foreseeable bodily injury or death to persons or serious loss to real or personal property resulting from such material or substance encountered on the site by the Contractor, the Contractor shall, upon recognizing the condition, immediately stop Work in the affected area and report the condition to the Owner and Architect in writing. Hazardous materials or substances are those hazardous, toxic, or radioactive materials or substances subject to regulations by applicable governmental authorities having jurisdiction, such as, but not limited to, the S.C. Department of Health and Environmental Control, the U.S. Environmental Protection Agency, and the U.S. Nuclear Regulatory Commission.

- 3.76** Insert the following at the end of Section 10.3.2:

In the absence of agreement, the Architect will make an interim determination regarding any delay or impact on the Contractor's additional costs. The Architect's interim determination of cost shall adjust the Contract Sum on the same basis as a Change Order, subject to the right of either party to disagree and assert a Claim in accordance with Article 15. Any adjustment in the Contract Sum shall be determined in accordance with Section 7.3.3.

- 3.77** Delete Section 10.3.3 and substitute the following:

10.3.3 The Work in the affected area shall be resumed immediately following the occurrence of any one of the following events: (a) the Owner causes remedial work to be performed that results in the absence of hazardous materials or substances; (b) the Owner and the Contractor, by written agreement, decide to resume performance of the Work; or (c) the Work may safely and lawfully proceed, as determined by an appropriate governmental authority or as evidenced by a written report to both the Owner and the Contractor, which is prepared by an environmental engineer reasonably satisfactory to both the Owner and the Contractor.

- 3.78** In Section 10.3.5, delete the word "The" at the beginning of the sentence and substitute the following:

In addition to its obligations under Section 3.18, the

- 3.79** Delete the language of Section 10.3.6 and substitute the word "Reserved."

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3.80 *Insert the following at the end of Section 10.4:*

The Contractor shall immediately give the Architect notice of the emergency. This initial notice may be oral followed within five days by a written notice setting forth the nature and scope of the emergency. Within fourteen days of the start of the emergency, the Contractor shall give the Architect a written estimate of the cost and probable effect of delay on the progress of the Work.

3.81 *Delete 11.1.2 and substitute the following:*

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

(1) COMMERCIAL GENERAL LIABILITY:

(a) General Aggregate (per project)	<u>\$1,000,000</u>
(b) Products/Completed Operations	<u>\$1,000,000</u>
(c) Personal and Advertising Injury	<u>\$1,000,000</u>
(d) Each Occurrence	<u>\$1,000,000</u>
(e) Fire Damage (Any one fire)	<u>\$50,000</u>
(f) Medical Expense (Any one person)	<u>\$5,000</u>

(2) BUSINESS AUTO LIABILITY (including All Owned, Non-owned, and Hired Vehicles):

(a) Combined Single Limit	<u>\$1,000,000</u>
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(3) WORKER'S COMPENSATION:

(a) State Statutory	
(b) Employers Liability	<u>\$100,000</u> Per Acc.
	<u>\$500,000</u> Disease, Policy Limit
	<u>\$100,000</u> Disease, Each Employee

In lieu of separate insurance policies for Commercial General Liability, Business Auto Liability, and Employers Liability, the Contractor may provide an umbrella policy meeting or exceeding all coverage requirements set forth in this Section 11.1.2. The umbrella policy limits shall not be less than \$3,000,000.

3.82 *Delete Section 11.1.3 and substitute the following:*

11.1.3 Prior to commencement of the Work, and thereafter upon replacement of each required policy of insurance, Contractor shall provide to the Owner a written endorsement to the Contractor's general liability insurance policy that:

- (i) names the Owner as an additional insureds for claims caused in whole or in part by the Contractor's negligent acts or omissions during the Contractor's operations;
- (ii) provides that no material alteration, cancellation, non-renewal, or expiration of the coverage contained in such policy shall have effect unless all additional insureds have been given at least ten (10) days prior written notice of cancellation for non-payment of premiums and thirty (30) days prior written notice of cancellation for any other reason; and
- (iii) provides that the Contractor's liability insurance policy shall be primary, with any liability insurance of the Owner as secondary and noncontributory.

Prior to commencement of the Work, and thereafter upon renewal or replacement of each required policy of insurance, Contractor shall provide to the Owner a signed, original certificate of liability insurance (ACORD 25). Consistent with this Section 11.1, the certificate shall identify the types of insurance, state the limits of liability for each type of coverage, name the Owner a Consultants as Certificate Holder, provide that the general aggregate limit applies per project, and provide that coverage is written on an occurrence basis. Both the certificates and the

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endorsements must be received directly from either the Contractor's insurance agent or the insurance company. An additional certificate evidencing continuation of liability coverage, including coverage for completed operations, naming the Owner as an additional insured for claims made under the Contractor's completed operations, and otherwise meeting the above requirements, shall be submitted with the final Application for Payment as required by Section 9.10.2 and thereafter upon renewal or replacement of such coverage until the expiration of the time required by Section 11.1.2. Information concerning reduction of coverage on account of revised limits or claims paid under the General Aggregate, or both, shall be furnished by the Contractor with reasonable promptness.

3.83 *Delete Section 11.1.4 and substitute the following:*

11.1.4 A failure by the Owner either (i) to demand a certificate of insurance or written endorsement required by Section 11.1, or (ii) to reject a certificate or endorsement on the grounds that it fails to comply with Section 11.1 shall not be considered a waiver of Contractor's obligations to obtain the required insurance.

3.84 *In Section 11.3.1, delete the first sentence and substitute the following:*

Unless otherwise provided in the Contract Documents, the Contractor shall purchase and maintain, in a company or companies lawfully authorized to do business in the jurisdiction in which the Project is located, property insurance written on a builder's risk "all-risk" or equivalent policy form in the amount of the initial Contract Sum, plus value of subsequent Contract Modifications and cost of materials supplied or installed by others, comprising total value for the entire Project at the site on a replacement cost basis.

3.85 *Delete the language of Section 11.3.1.2 and substitute the word "Reserved."*

3.86 *Delete the language of Section 11.3.1.3 and substitute the word "Reserved."*

3.87 *Delete Section 11.3.2 and substitute the following:*

11.3.2 BOILER AND MACHINERY INSURANCE

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

3.88 *Delete Section 11.3.3 and substitute the following:*

11.3.3 LOSS OF USE INSURANCE

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

3.89 *Delete Section 11.3.4 and substitute the following:*

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

3.90 *Delete the language of Section 11.3.5 and substitute the word "Reserved."*

3.91 *Delete Section 11.3.6 and substitute the following:*

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

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- 3.92** Delete the first sentence of Section 11.3.7 and substitute the following:

The Owner and Contractor waive all rights against (1) each other and any of their subcontractors, sub-subcontractors, agents and employees, each of the other, and (2) the Architect, Architect's consultants, separate contractors described in Article 6, if any, and any of their subcontractors, sub-subcontractors, agents and employees, for damages caused by fire or other causes of loss to the extent the property insurance provided by the Contractor pursuant to this Section 11.3 covers and pays for the damage, except such rights as they have to proceeds of such insurance held by the Contractor as fiduciary.

- 3.93** Delete the first sentence of Section 11.3.8 and substitute the following:

A loss insured under the Contractor's property insurance shall be adjusted by the Contractor as fiduciary and made payable to the Contractor as fiduciary for the insureds, as their interests may appear, subject to requirements of any applicable mortgagee clause and of Section 11.3.10.

- 3.94** Delete Section 11.3.9 and substitute the following:

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

- 3.95** Delete Section 11.3.10 and substitute the following:

11.3.10 The Contractor as fiduciary shall have power to adjust and settle a loss with insurers unless one of the parties in interest shall object in writing within five days after occurrence of loss to the Contractor's exercise of this power; if such objection is made, the dispute shall be resolved in the manner provided in the contract between the parties in dispute as the method of binding dispute resolution. The Contractor as fiduciary shall make settlement with insurers or, in the case of a dispute over distribution of insurance proceeds, in accordance with a final order or determination issued by the appropriate authority having jurisdiction over the dispute..

- 3.96** Delete Section 11.4.1 and substitute the following:

11.4.1 Before commencing any services hereunder, the Contractor shall provide the Owner with Performance and Payment Bonds, each in an amount not less than the Contract Price set forth in Article 4 of the Agreement. The Surety shall have, at a minimum, a "Best Rating" of "A" as stated in the most current publication of "Best's Key Rating Guide, Property-Casualty". In addition, the Surety shall have a minimum "Best Financial Strength Category" of "Class V", and in no case less than five (5) times the contract amount. The Performance Bond shall be written on Form SE-355, "Performance Bond" and the Payment Bond shall be written on Form SE-357, "Labor and Material Payment Bond", and both shall be made payable to the Owner.

- 3.97** Delete Section 11.4.2 and substitute the following:

11.4.2 The Performance and Labor and Material Payment Bonds shall:

- .1 be issued by a surety company licensed to do business in South Carolina;
- .2 be accompanied by a current power of attorney and certified by the attorney-in-fact who executes the bond on the behalf of the surety company; and
- .3 remain in effect for a period not less than one (1) year following the date of Substantial Completion or the time required to resolve any items of incomplete Work and the payment of any disputed amounts, whichever time period is longer.

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3.98 *Add the following Sections 11.4.3 and 11.4.4:*

11.4.3 Any bonds required by this Contract shall meet the requirements of the South Carolina Code of Laws and Regulations, as amended.

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

3.99 *Delete Section 12.1.1 and substitute the following:*

12.1.1 If a portion of the Work is covered contrary to the requirements specifically expressed in the Contract Documents, including inspections of work-in-progress required by all authorities having jurisdiction over the Project, it must, upon demand of the Architect or authority having jurisdiction, be uncovered for observation and be replaced at the Contractor's expense without change in the Contract Time.

3.100 *In Section 12.2.2.1, delete the words "and to make a claim for breach of warranty" at the end of the third sentence.*

3.101 *In Section 12.2.2.3, add the following to the end of the sentence:*

unless otherwise provided in the Contract Documents.

3.102 *Insert the following at the end of Section 12.2.4:*

If, prior to the date of Substantial Completion, the Contractor, a Subcontractor, or anyone for whom either is responsible, uses or damages any portion of the Work, including, without limitation, mechanical, electrical, plumbing, and other building systems, machinery, equipment, or other mechanical device, the Contractor shall cause such item to be restored to "like new" condition at no expense to the Owner.

3.103 *Delete Section 13.1 and substitute the following:*

13.1 GOVERNING LAW

The Contract, any dispute, claim, or controversy relating to the Contract, and all the rights and obligations of the parties shall, in all respects, be interpreted, construed, enforced and governed by and under the laws of the State of South Carolina, except its choice of law rules.

3.104 *Delete Section 13.2, including its Sub-Sections 13.2.1 and 13.2.2, and substitute the following:*

13.2 SUCCESSORS AND ASSIGNS

The Owner and Contractor respectively bind themselves, their partners, successors, assigns and legal representatives to covenants, agreements and obligations contained in the Contract Documents. Neither party to the Contract shall assign the Contract as a whole, or in part, without written consent of the other and then only in accordance with and as permitted by Regulation 19-445.2180 of the South Carolina Code of Regulations, as amended. If either party attempts to make such an assignment without such consent, that party shall nevertheless remain legally responsible for all obligations under the Contract.

3.105 *Delete Section 13.3 and substitute the following:*

13.3 WRITTEN NOTICE

Unless otherwise permitted herein, all notices contemplated by the Contract Documents shall be in writing and shall be deemed given:

- .1 upon actual delivery, if delivery is by hand;
- .2 upon receipt by the transmitting party of confirmation or reply, if delivery is by electronic mail, facsimile, telex or telegram;
- .3 upon receipt, if delivery is by the United States mail.

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Notice to Contractor shall be to the address provided in Section 8.3.2 of the Agreement. Notice to Owner shall be to the address provided in Section 8.2.2 of the Agreement. Either party may designate a different address for notice by giving notice in accordance with this paragraph.

3.106 *In Section 13.4.1, insert the following at the beginning of the sentence:*

Unless expressly provided otherwise,

3.107 *Add the following Section 13.4.3:*

13.4.3 Notwithstanding Section 9.10.4, the rights and obligations which, by their nature, would continue beyond the termination, cancellation, rejection, or expiration of this contract shall survive such termination, cancellation, rejection, or expiration, including, but not limited to, the rights and obligations created by the following clauses:

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

3.5 Warranty

3.17 Royalties, Patents and Copyrights

3.18 Indemnification

7.6 Cost or Pricing Data

11.1 Contractor's Liability Insurance

11.4 Performance and Payment Bond

15.1.6 Claims for Listed Damages

15.1.7 Waiver of Claims Against the Architect

15.6 Dispute Resolution

15.4 Service of Process

3.108 *Delete Section 13.6 and substitute the following:*

13.6 INTEREST

Payments due to the Contractor and unpaid under the Contract Documents shall bear interest only if and to the extent allowed by Title 29, Chapter 6, Article 1 of the South Carolina Code of Laws. Amounts due to the Owner shall bear interest at the rate of one percent a month or a pro rata fraction thereof on the unpaid balance as may be due.

3.109 *Delete the language of Section 13.7 and substitute the word "Reserved."*

3.110 *Add the following Sections 13.8 through 13.16:*

13.8 PROCUREMENT OF MATERIALS BY OWNER

The Contractor accepts assignment of all purchase orders and other agreements for procurement of materials and equipment by the Owner that are identified as part of the Contract Documents. The Contractor shall, upon delivery, be responsible for the storage, protection, proper installation, and preservation of such Owner purchased items, if any, as if the Contractor were the original purchaser. The Contract Sum includes, without limitation, all costs and expenses in connection with delivery, storage, insurance, installation, and testing of items covered in any assigned purchase orders or agreements. Unless the Contract Documents specifically provide otherwise, all Contractor warranty of workmanship and correction of the Work obligations under the Contract Documents shall apply to the Contractor's installation of and modifications to any Owner purchased items,.

13.9 INTERPRETATION OF BUILDING CODES

As required by Title 10, Chapter 1, Section 180 of the South Carolina Code of Laws, as amended, OSE shall determine the enforcement and interpretation of all building codes and referenced standards on state buildings. The Contractor shall refer any questions, comments, or directives from local officials to the Owner and OSE for resolution.

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13.10 MINORITY BUSINESS ENTERPRISES

Contractor shall notify Owner of each Minority Business Enterprise (MBE) providing labor, materials, equipment, or supplies to the Project under a contract with the Contractor. Contractor's notification shall be via the first monthly status report submitted to the Owner after execution of the contract with the MBE. For each such MBE, the Contractor shall provide the MBE's name, address, and telephone number, the nature of the work to be performed or materials or equipment to be supplied by the MBE, whether the MBE is certified by the South Carolina Office of Small and Minority Business Assistance, and the value of the contract.

13.11 SEVERABILITY

If any provision or any part of a provision of the Contract Documents shall be finally determined to be superseded, invalid, illegal, or otherwise unenforceable pursuant to any applicable Legal Requirements, such determination shall not impair or otherwise affect the validity, legality, or enforceability of the remaining provision or parts of the provision of the Contract Documents, which shall remain in full force and effect as if the unenforceable provision or part were deleted.

13.12 ILLEGAL IMMIGRATION

Contractor certifies and agrees that it will comply with the applicable requirements of Title 8, Chapter 14 of the South Carolina Code of Laws and agrees to provide to the State upon request any documentation required to establish either: (a) that Title 8, Chapter 14 is inapplicable both to Contractor and its subcontractors or sub-subcontractors; or (b) that Contractor and its subcontractors or sub-subcontractors are in compliance with Title 8, Chapter 14. Pursuant to Section 8-14-60, "A person who knowingly makes or files any false, fictitious, or fraudulent document, statement, or report pursuant to this chapter is guilty of a felony, and, upon conviction, must be fined within the discretion of the court or imprisoned for not more than five years, or both." Contractor agrees to include in any contracts with its subcontractors language requiring its subcontractors to (a) comply with the applicable requirements of Title 8, Chapter 14, and (b) include in their contracts with the sub-subcontractors language requiring the sub-subcontractors to comply with the applicable requirements of Title 8, Chapter 14. (An overview is available at www.procurement.sc.gov)

13.13 SETOFF

The Owner shall have all of its common law, equitable, and statutory rights of set-off.

13.14 DRUG-FREE WORKPLACE

The Contractor certifies to the Owner that Contractor will provide a Drug-Free Workplace, as required by Title 44, Chapter 107 of the South Carolina Code of Laws, as amended.

13.15 FALSE CLAIMS

According to the S.C. Code of Laws § 16-13-240, "a person who by false pretense or representation obtains the signature of a person to a written instrument or obtains from another person any chattel, money, valuable security, or other property, real or personal, with intent to cheat and defraud a person of that property is guilty" of a crime.

13.16 NON-INDEMNIFICATION:

Any term or condition is void to the extent it requires the State to indemnify anyone. It is unlawful for a person charged with disbursements of state funds appropriated by the General Assembly to exceed the amounts and purposes stated in the appropriations. (§ 11-9-20) It is unlawful for an authorized public officer to enter into a contract for a purpose in which the sum is in excess of the amount appropriated for that purpose. It is unlawful for an authorized public officer to divert or appropriate the funds arising from any tax levied and collected for any one fiscal year to the payment of an indebtedness contracted or incurred for a previous year. (§ 11-1-40)

3.111 Delete Section 14.1.1 and substitute the following:

14.1.1 The Contractor may terminate the Contract if the Work is stopped for a period of 45 consecutive days through no act or fault of the Contractor or a Subcontractor, Sub-subcontractor or their agents or employees or any other persons or entities performing portions of the Work under direct or indirect contract with the Contractor, for any of the following reasons:

- .1** Issuance of an order of a court or other public authority having jurisdiction that requires substantially all Work to be stopped; or

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- .2 An act of government, such as a declaration of national emergency that requires substantially all Work to be stopped.
- .3 Because the Architect has not issued a Certificate for Payment and has not notified the Contractor of the reason for withholding certification as provided in Section 9.4.1, or because the Owner has not made payment on a Certificate for Payment within the time stated in the Contract Documents and the Contractor has stopped work in accordance with Section 9.7

3.112 *Insert the following at the end of Section 14.1.3:*

Any adjustment to the Contract Sum pursuant to this Section shall be made in accordance with the requirements of Article 7.

3.113 *In Section 14.1.4, replace the word "repeatedly" with the word "persistently."***3.114** *Delete Section 14.2.1 and substitute the following:***14.2.1** The Owner may terminate the Contract if the Contractor

- .1 repeatedly refuses or fails to supply enough properly skilled workers or proper materials, or otherwise fails to prosecute the Work, or any separable part of the Work, with the diligence, resources and skill that will ensure its completion within the time specified in the Contract Documents, including any authorized adjustments;
- .2 fails to make payment to Subcontractors for materials or labor in accordance with the Contract Documents and the respective agreements between the Contractor and the Subcontractors;
- .3 repeatedly disregards applicable laws, statutes, ordinances, codes, rules and regulations, or lawful orders of a public authority; or
- .4 otherwise is guilty of substantial breach of a provision of the Contract Documents.

3.115 *In Section 14.2.2, delete the parenthetical statement " , upon certification by the Initial Decision Maker that sufficient cause exists to justify such action," immediately following the word "Owner" in the first line.***3.116** *In Section 14.2.4, replace the words "Initial Decision Maker" with the word "Architect"***3.117** *Add the following Section 14.2.5:*

14.2.5 If, after termination for cause, it is determined that the Owner lacked justification to terminate under Section 14.2.1, or that the Contractor's default was excusable, the rights and obligations of the parties shall be the same as if the termination had been issued for the convenience of the Owner under Section 14.4.

3.118 *Delete the second sentence of Section 14.3.2 and substitute the following:*

Any adjustment to the Contract Sum made pursuant to this section shall be made in accordance with the requirements of Article 7.3.3.

3.119 *Delete Section 14.4.1 and substitute the following:*

14.4.1 The Owner may, at any time, terminate the Contract, in whole or in part for the Owner's convenience and without cause. The Owner shall give written notice of the termination to the Contractor specifying the part of the Contract terminated and when termination becomes effective.

3.120 *Delete Section 14.4.2 and substitute the following:*

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

- .1 cease operations as directed by the Owner in the notice;
- .2 take actions necessary, or that the Owner may direct, for the protection and preservation of the Work;

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- .3 except for Work directed to be performed prior to the effective date of termination stated in the notice, terminate all existing subcontracts and purchase orders and enter into no further subcontracts and purchase orders; and
- .4 complete the performance of the Work not terminated, if any.

3.121 *Delete Section 14.4.3 and substitute the following:*

14.4.3 In case of such termination for the Owner's convenience, the Contractor shall be entitled to receive payment for Work executed, costs incurred by reason of such termination, and any other adjustments otherwise allowed by the Contract. Any adjustment to the Contract Sum made pursuant to this Section 14.4 shall be made in accordance with the requirements of Article 7.3.3.

3.122 *Add the following Sections 14.4.4, 14.4.5, and 14.5:*

14.4.4 Contractor's failure to include an appropriate termination for convenience clause in any subcontract shall not (i) affect the Owner's right to require the termination of a subcontract, or (ii) increase the obligation of the Owner beyond what it would have been if the subcontract had contained an appropriate clause.

14.4.5 Upon written consent of the Contractor, the Owner may reinstate the terminated portion of this Contract in whole or in part by amending the notice of termination if it has been determined that:

- .1 the termination was due to withdrawal of funding by the General Assembly, Governor, or Budget and Control Board or the need to divert project funds to respond to an emergency as defined by Regulation 19-445.2110(B) of the South Carolina Code of Regulations, as amended;
- .2 funding for the reinstated portion of the work has been restored;
- .3 circumstances clearly indicate a requirement for the terminated work; and
- .4 reinstatement of the terminated work is advantageous to the Owner.

14.5 CANCELLATION AFTER AWARD BUT PRIOR TO PERFORMANCE

Pursuant to Title 11, Chapter 35 and Regulation 19-445.2085 of the South Carolina Code of Laws and Regulations, as amended, this contract may be canceled after award but prior to performance.

3.123 *Insert the following sentence after the second sentence of Section 15.1.1:*

A voucher, invoice, payment application or other routine request for payment that is not in dispute when submitted is not a Claim under this definition.

3.124 *Delete Section 15.1.2 and substitute the following:***15.1.2 NOTICE OF CLAIMS**

Claims by either the Owner or Contractor must be initiated by written notice to the other party and to the Architect. Such notice shall include sufficient information to advise the Architect and other party of the circumstances giving rise to the claim, the specific contractual adjustment or relief requested and the basis of such request. Claims by either party arising prior to the date final payment is due must be initiated within 21 days after occurrence of the event giving rise to such Claim or within 21 days after the claimant first recognizes the condition giving rise to the Claim, whichever is later except as stated for adverse weather days in Section 15.1.5.2. By failing to give written notice of a Claim within the time required by this Section, a party expressly waives its claim.

3.125 *Delete Section 15.1.3 and substitute the following:***15.1.3 CONTINUING CONTRACT PERFORMANCE**

Pending final resolution of a Claim, including any administrative review allowed under Section 15.6, except as otherwise agreed in writing or as provided in Section 9.7 and Article 14, the Contractor shall proceed diligently with performance of the Contract and the Owner shall continue to make payments in accordance with the Contract Documents. The Architect will issue Certificates for Payment in accordance with the initial decisions and determinations of the Architect.

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3.126 *Insert the following at the end of Section 15.1.5.1:*

Claims for an increase in the Contract Time shall be based on one additional calendar day for each full calendar day that the Contractor is prevented from working.

3.127 *Insert the following Sub-Sections at the end of Section 15.1.5.2:*

- .1 Claims for adverse weather shall be based on actual weather conditions at the job site or other place of performance of the Work, as documented in the Contractor's job site log.
- .2 For the purpose of this Contract, a total of five (5) calendar days per calendar month (non-cumulative) shall be anticipated as "adverse weather" at the job site, and such time will not be considered justification for an extension of time. If, in any month, adverse weather develops beyond the five (5) days, the Contractor shall be allowed to claim additional days to compensate for the excess weather delays only to the extent of the impact on the approved construction schedule. The remedy for this condition is for an extension of time only and is exclusive of all other rights and remedies available under the Contract Documents or imposed or available by law.
- .3 The Contractor shall submit monthly with their pay application all claims for adverse weather conditions that occurred during the previous month. The Architect shall review each monthly submittal in accordance with Section 15.5 and inform the Contractor and the Owner promptly of its evaluation. Approved days shall be included in the next Change Order issued by the Architect. Adverse weather conditions not claimed within the time limits of this Subparagraph shall be considered to be waived by the Contractor. Claims will not be allowed for adverse weather days that occur after the scheduled (original or adjusted) date of Substantial Completion.

3.128 *Delete Section 15.1.6 and substitute the following:***15.1.6 CLAIMS FOR LISTED DAMAGES**

Notwithstanding any other provision of the Contract Documents, including Section 1.2.1, but subject to a duty of good faith and fair dealing, the Contractor and Owner waive Claims against each other for listed damages arising out of or relating to this Contract.

15.1.6.1 For the Owner, listed damages are (i) lost revenue and profit, (ii) losses resulting from injury to business or reputation, (iii) additional or escalated overhead and administration expenses, (iv) additional financing costs, (v) costs suffered by a third party unable to commence work, (vi) attorney's fees, (vii) any interest, except to the extent allowed by Section 13.6 (Interest), (viii) lost revenue and profit for lost use of the property, (ix) costs resulting from lost productivity or efficiency.

15.1.6.2 For the Contractor, listed damages are (i) lost revenue and profit, (ii) losses resulting from injury to business or reputation, (iii) additional or escalated overhead and administration expenses, (iv) additional financing costs, (v) attorney's fees, (vi) any interest, except to the extent allowed by Section 13.6 (Interest); (vii) unamortized equipment costs; and, (viii) losses incurred by subcontractors for the types of damages the Contractor has waived as against the Owner. Without limitation, this mutual waiver is applicable to all damages due to either party's termination in accordance with Article 14. Nothing contained in this Section shall be deemed to preclude an award of liquidated damages, when applicable, in accordance with the requirements of the Contract Documents. This mutual waiver is not applicable to amounts due or obligations under Section 3.18 (Indemnification).

3.129 *Add the following Section 15.1.7:***15.1.7 WAIVER OF CLAIMS AGAINST THE ARCHITECT**

Notwithstanding any other provision of the Contract Documents, including Section 1.2.1, but subject to a duty of good faith and fair dealing, the Contractor waives all claims against the Architect and any other design professionals who provide design and/or project management services to the Owner, either directly or as independent contractors or subcontractors to the Architect, for listed damages arising out of or relating to this Contract. The listed damages are (i) lost revenue and profit, (ii) losses resulting from injury to business or reputation, (iii) additional or escalated overhead and administration expenses, (iv) additional financing costs, (v)

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attorney's fees, (vi) any interest; (vii) unamortized equipment costs; and, (viii) losses incurred by subcontractors for the types of damages the Contractor has waived as against the Owner. This mutual waiver is not applicable to amounts due or obligations under Section 3.18 (Indemnification).

3.130 *Delete the language of Sections 15.2, 15.3, and 15.4, including all Sub-Sections, and substitute the word "Reserved" for the deleted language of each Section and Sub-Section.*

3.131 *Add the following Sections 15.5 and 15.6 with their sub-sections:*

15.5 CLAIM AND DISPUTES - DUTY OF COOPERATION, NOTICE, AND ARCHITECTS

INITIAL DECISION

15.5.1 Contractor and Owner are fully committed to working with each other throughout the Project to avoid or minimize claims. To further this goal, Contractor and Owner agree to communicate regularly with each other and the Architect at all times notifying one another as soon as reasonably possible of any issue that if not addressed may cause loss, delay, and/or disruption of the Work. If claims do arise, Contractor and Owner each commit to resolving such claims in an amicable, professional, and expeditious manner to avoid unnecessary losses, delays, and disruptions to the Work.

15.5.2 Claims shall first be referred to the Architect for initial decision. An initial decision shall be required as a condition precedent to resolution pursuant to Section 15.6 of any Claim arising prior to the date of final payment, unless 30 days have passed after the Claim has been referred to the Architect with no decision having been rendered, or after all the Architect's requests for additional supporting data have been answered, whichever is later. The Architect will not address claims between the Contractor and persons or entities other than the Owner.

15.5.3 The Architect will review Claims and within ten days of the receipt of a Claim (1) request additional supporting data from the claimant or a response with supporting data from the other party or (2) render an initial decision in accordance with Section 15.5.5.

15.5.4 If the Architect requests a party to provide a response to a Claim or to furnish additional supporting data, such party shall respond, within ten days after receipt of such request, and shall either (1) provide a response on the requested supporting data, (2) advise the Architect when the response or supporting data will be furnished or (3) advise the Architect that all supporting data has already been provided. Upon receipt of the response or supporting data, the Architect will render an initial decision in accordance with Section 15.5.5.

15.5.5 The Architect will render an initial decision in writing; (1) stating the reasons therefor; and (2) notifying the parties of any change in the Contract Sum or Contract Time or both. The Architect will deliver the initial decision to the parties within two weeks of receipt of any response or supporting data requested pursuant to Section 16.4, or within such longer period as may be mutually agreeable to the parties. If the parties accept the initial decision, the Architect shall prepare a Change Order with appropriate supporting documentation for the review and approval of the parties and the Office of State Engineer. If either the Contractor, Owner, or both, disagree with the initial decision, the Contractor and Owner shall proceed with dispute resolution in accordance with the provisions of Section 15.6.

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

15.6 DISPUTE RESOLUTION

15.6.1 If a claim is not resolved pursuant to Section 15.5 to the satisfaction of either party, both parties shall attempt to resolve the dispute at the field level through discussions between Contractor's Representative and Owner's Representative. If a dispute cannot be resolved through Contractor's Representative and Owner's Representative, then the Contractor's Senior Representative and the Owner's Senior Representative, upon the request of either party, shall meet as soon as conveniently possible, but in no case later than twenty-one days after such a request is made, to attempt to resolve such dispute. Prior to any meetings between the Senior Representatives, the parties will exchange relevant information that will assist the parties in resolving their dispute. The meetings required by this Section are a condition precedent to resolution pursuant to Section 15.6.2.

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15.6.2 If after meeting in accordance with the provisions of Section 15.6.1, the Senior Representatives determine that the dispute cannot be resolved on terms satisfactory to both the Contractor and the Owner, then either party may submit the dispute by written request to South Carolina's Chief Procurement Officer for Construction (CPOC). Except as otherwise provided in Article 15, all claims, claims, or controversies relating to the Contract shall be resolved exclusively by the appropriate Chief Procurement Officer in accordance with Title 11, Chapter 35, Article 17 of the South Carolina Code of Laws, or in the absence of jurisdiction, only in the Court of Common Pleas for, or in the absence of jurisdiction a federal court located in, Richland County, State of South Carolina. Contractor agrees that any act by the State regarding the Contract is not a waiver of either the State's sovereign immunity or the State's immunity under the Eleventh Amendment of the United State's Constitution.

15.6.3 If any party seeks resolution to a dispute pursuant to Section 15.6.2, the parties shall participate in non-binding mediation to resolve the claim. If the claim is governed by Title 11, Chapter 35, Article 17 of the South Carolina Code of Laws as amended and the amount in controversy is \$100,000.00 or less, the CPOC shall appoint a mediator, otherwise, the mediation shall be conducted by an impartial mediator selected by mutual agreement of the parties, or if the parties cannot so agree, a mediator designated by the American Arbitration Association ("AAA") pursuant to its Construction Industry Mediation Rules. The mediation will be governed by and conducted pursuant to a mediation agreement negotiated by the parties or, if the parties cannot so agree, by procedures established by the mediator.

15.6.4 Without relieving any party from the other requirements of Sections 15.5 and 15.6, either party may initiate proceedings in the appropriate forum prior to initiating or completing the procedures required by Sections 15.5 and 15.6 if such action is necessary to preserve a claim by avoiding the application of any applicable statutory period of limitation or repose.

15.6.5 SERVICE OF PROCESS

Contractor consents that any papers, notices, or process necessary or proper for the initiation or continuation of any claims, claims, or controversies relating to the Contract; for any court action in connection therewith; or for the entry of judgment on any award made, may be served on Contractor by certified mail (return receipt requested) addressed to Contractor at the address provided for the Contractor's Senior Representative or by personal service or by any other manner that is permitted by law, in or outside South Carolina. Notice by certified mail is deemed duly given upon deposit in the United States mail.

3.132 Add the following Article 16:**ARTICLE 16 PROJECT-SPECIFIC REQUIREMENTS AND INFORMATION****16.1. Inspection Requirements:** *(Indicate the inspection services required by the Contract)*

- ☐ Special Inspections are required and are not part of the Contract Sum. *(see section 01400)*
☐ Building Inspections are required and are not part of the Contract Sum. *(see section 01400)*
☐ Building Inspections are required and are part of the Contract Sum. The inspections required for this Work are : *(Indicate which services are required and the provider)*

- ☐ Civil: _____
☐ Structural: _____
☐ Mechanical: _____
☐ Plumbing: _____
☐ Electrical: _____
☐ Gas: _____
☐ Other *(list)*: _____

Remarks: _____

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16.1.1 Contractor shall schedule and request inspections in an orderly and efficient manner and shall notify the Owner whenever the Contractor schedules an inspection in accordance with the requirements of Section 16.1. Contractor shall be responsible for the cost of inspections scheduled and conducted without the Owner's knowledge and for any increase in the cost of inspections resulting from the inefficient scheduling of inspections.

16.2 List Cash Allowances, if any. *(Refer to attachments as needed. If none, enter NONE)*

Section 01021, Cash Allowances

16.3. Requirements for Record Drawings, if any. *(Refer to attachments as needed. If none, enter NONE)*

Section 01700, Contract Closeout

16.4. Requirements for Shop Drawings and other submittals, if any, including number, procedure for submission, list of materials to be submitted, etc. *(Refer to attachments as needed. If none, enter NONE)*

Section 01340, Shop Drawings, Product Data and Samples

16.5. Requirements for signage, on-site office or trailer, utilities, restrooms, etc., in addition to the Contract, if any. *(Refer to attachments as needed. If none, enter NONE)*

Section 01500, Temporary Facilities and Controls

16.6. Requirements for Project Cleanup in addition to the Contract, if any. *(Refer to attachments as needed. If none, enter NONE)*

Section 01700, Contract Closeout

16.7. List all attachments that modify these General Conditions. *(If none, enter NONE)*

NONE

USC SUPPLEMENTAL GENERAL CONDITIONS
FOR CONSTRUCTION PROJECTS

1. Contractor's employees shall take all reasonable means not to interrupt the flow of student traffic in building corridors, lobbies and stairs. All necessary and reasonable safety precautions shall be taken to prevent injury to building occupants while transporting materials and equipment through the building to the work area. Providing safe, accessible, plywood pedestrian ways around construction may be required if a suitable alternative route is not available.
2. Fraternization between Contractor's employees and USC students, faculty or staff is strictly prohibited-zero tolerance!
3. USC will not tolerate rude, abusive or degrading behavior on the job site. Heckling and cat-calling directed toward students, faculty or staff or any other person on USC property is strictly prohibited. Any contractor whose employees violate this requirement will be assessed a fine of up to \$500 per violation.
4. Contractor's employees must adhere to the University's policy of maintaining a drug-free and smoke-free/tobacco free workplace.
5. Contractor must sign a Contractor Key Receipt/Return form before any keys are issued. Keys must be returned immediately upon the completion of the work. The Contractor will bear the cost of any re-keying necessary due to the loss of or failure to return keys.
6. A welding permit must be issued by the University Fire Marshall before any welding can begin inside a building. Project Manager will coordinate.
7. Contractor must notify the University immediately upon the discovery of suspect material such as those potentially containing asbestos or other such hazardous materials. These materials **must not** be disturbed until approved by the USC Project Manager.
8. At the beginning of the project, the USC Project Manager will establish the Contractor's lay-down area. This area will also be used for the Contractor's work vehicles. No personal vehicles will be allowed in this area, or in any areas surrounding the construction site that are not regular or authorized parking lots. Personal vehicles must be parked in the perimeter parking lots. Parking permits can be obtained at the USC Parking Office located in the Pendleton Street parking garage. The lay down area will be clearly identified to the contractor by the PM, with a sketch or drawing provided to Parking. In turn, the contractor will mark off this area with a sign containing the project name, PM name, Contractor name and contact number, and end date. Where this area is subject to foot traffic, protective barriers will be provided as specified by the PM. The area will be maintained in a neat and orderly fashion. Vehicles parked in the lay down area (or designated parking areas) will be clearly marked or display a CPC furnished placard for identification.

9. Contractor will be responsible for providing its own temporary toilet facilities, unless prior arrangements are made with the USC Project Manager.
10. Use of USC communications facilities (telephones, computers, etc.) by the Contractor is prohibited, unless prior arrangements are made with the USC Project Manager.
11. For all projects over \$100,000, including IDC's, an SE-395, Contractor Performance Evaluation, will be completed by the USC Project Manager and reviewed with the GC at the beginning of the project and a copy given to the GC. At the end of the project the form will be completed and a Construction Performance rating will be established.
12. Contractor is responsible for removal of all debris from the site, and is required to provide the necessary dumpsters which will be emptied at least 3 times per week. Construction waste must not be placed in University dumpsters. THE CONSTRUCTION SITE MUST BE THOROUGHLY CLEANED WITH ALL TRASH PICKED UP AND PROPERLY DISPOSED OF ON A DAILY BASIS AND THE SITE MUST BE LEFT IN A SAFE AND SANITARY CONDITION EACH DAY. THE UNIVERSITY WILL INSPECT JOB SITES REGULARLY AND WILL FINE ANY CONTRACTOR FOUND TO BE IN VIOLATION OF THIS REQUIREMENT AN AMOUNT OF UP TO \$1,000 PER VIOLATION.
13. **Contractor must provide all O&M manuals, as-built drawings, and training of USC personnel on new equipment, controls, etc. prior to Substantial Completion. Final payment will not be made until this is completed.**
14. The contractor will comply with all regulations set forth by OSHA and SCDHEC. Contractor must also adhere to USC's internal policies and procedures (available by request). As requested, the contractor will submit all Safety Programs and Certificates of Insurance to the University for review.
15. Tree protection fencing is required to protect existing trees and other landscape features to be preserved within a construction area. The limits of this fence will be evaluated for each situation with the consultant, USC Arborist and USC Project Manager. The tree protection fence shall be 5' high chain link fence unless otherwise approved by USC Project Manager. No entry or materials storage will be allowed inside the tree protection zone. A 4" layer of mulch shall be placed over the tree protection area to maintain moisture in the root zone.
16. Where it is necessary to cross walks, tree root zones (i.e., under canopy) or lawns the following measures shall be taken: For single loads up to 9,000 lbs., a 3/4" minimum plywood base shall be placed over areas impacted. For single loads over 9,000 lbs., two layers of 3/4" plywood is required.
17. For projects requiring heavy loads to cross walks tree root zones or lawns. A construction entry road consisting of 10' X 16' oak logging mates on 12" coarse, chipped, hardwood base. Mulch and logging mats shall be supplemented throughout the project to keep

matting structurally functional.

18. Any damage to existing landscaping (including lawn areas) will be remediated before final payment is made.
19. Orange safety fence to be provided by the contractor. (USC Arborist, Kevin Curtis may be contacted at 777-0033 or 315-0319)

Campus Vehicle Expectations

1. All motorized vehicles on the University campus are expected to travel and park on roadways and/or in parking stalls.
2. All motorized vehicle traffic on USC walkways must first receive the Landscape Manager=s authorization. Violators may be subject to fines and penalties.
3. All motorized vehicles that leak or drip liquids are prohibited from traveling or parking on walks or landscaped areas.
4. Contractors, vendors, and delivery personnel are required to obtain prior parking authorization before parking in a designated space. Violators may be subject to fines and/or penalties. See Item 10 below.
5. Drivers of equipment or motor vehicles that damage university hardscape or landscape will be held personally responsible for damages and restoration expense.
6. Vehicle drivers who park on landscape or drives must be able to produce written evidence of need or emergency requiring parking on same.
7. All vehicles parked on landscape, hardscape, or in the process of service delivery, must display adequate safety devices, i.e. flashing lights, cones, signage, etc.
8. All drivers of equipment and vehicles will be respectful of University landscape, equipment, structures, fixtures and signage.
9. All incidents of property damage will be reported to Parking Services or the Work Management Center.
10. Parking on campus is restricted to spaces designated by Parking Services at the beginning of the project. Once the project manager and contractor agree on how many spaces are needed, the project manager will obtain a placard for each vehicle. This placard must be hung from the mirror of the vehicle, otherwise a ticket will be issued and these tickets cannot be “fixed”. Parking spaces are restricted to work vehicles only; no personal vehicles.

Performance Bond

KNOW ALL MEN BY THESE PRESENTS, that *(Insert full name or legal title and address of Contractor)*

Name: _____

Address: _____

hereinafter referred to as "Contractor", and *(Insert full name and address of principal place of business of Surety)*

Name: _____

Address: _____

hereinafter called the "surety", are jointly and severally held and firmly bound unto *(Insert full name and address of Agency)*

Name: University of South Carolina

Address: 743 Greene Street

Columbia, South Carolina 29208

hereinafter referred to as "Agency", or its successors or assigns, the sum of _____ (\$ _____), being the sum of the Bond to which payment to be well and truly made, the Contractor and Surety bind themselves, their heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

WHEREAS, Contractor has by written agreement dated _____ entered into a contract with Agency to construct

State Project Name: CRF DM Law Center Roof Replacement

State Project Number: H27-6094-F

Brief Description of Awarded Work, as found on the SE-330, Bid Form: Remove existing gravel surface BUR, Roof Areas A and D. Roof and flashing membrane tested positive for asbestos. Install new roof insulation and three-ply roof with fire-rated modified bitumen cap sheet over lightweight concrete roof deck. Roof Area B to receive fluid-applied elastomeric deck coa

in accordance with Drawings and Specifications prepared by *(Insert full name and address of A/E)*

Name: Floyd Abrams Company

Address: 3111 Devine Street

Columbia, South Carolina 29205

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

IN WITNESS WHEREOF, Surety and Contractor, intending to be legally bound hereby, subject to the terms stated herein, do each cause this Performance Bond to be duly executed on its behalf by its authorized officer, agent or representative.

DATED this _____ day of _____, 2____ BOND NUMBER _____
(shall be no earlier than Date of Contract)

CONTRACTOR

SURETY

By: _____
 (Seal)

By: _____
 (Seal)

Print Name: _____

Print Name: _____

Print Title: _____

Print Title: _____
 (Attach Power of Attorney)

Witness: _____

Witness: _____

(Additional Signatures, if any, appear on attached page)

Performance Bond**Performance Bond****NOW, THEREFORE, THE CONDITION OF THIS OBLIGATION IS SUCH THAT:**

1. The Contractor and the Surety, jointly and severally, bind themselves, their heirs, executors, administrators, successors and assigns to the Agency for the full and faithful performance of the contract, which is incorporated herein by reference

2. If the Contractor performs the contract, the Surety and the Contractor have no obligation under this Bond, except to participate in conferences as provided in paragraph 3.1.

3. The Surety's obligation under this Bond shall arise after:

3.1 The Agency has notified the Contractor and the Surety at the address described in paragraph 10 below, that the Agency is considering declaring a Contractor Default and has requested and attempted to arrange a conference with the Contractor and the Surety to be held not later than 15 days after receipt of such notice to discuss methods of performing the Contract. If the Agency, the Contractor and the Surety agree, the Contractor shall be allowed a reasonable time to perform the Contract, but such an agreement shall not waive the Agency's right, if any, subsequently to declare a Contractor Default; or

3.2 The Agency has declared a Contractor Default and formally terminated the Contractor's right to complete the Contract.

4. The Surety shall, within 15 days after receipt of notice of the Agency's declaration of a Contractor Default, and at the Surety's sole expense, take one of the following actions:

4.1 Arrange for the Contractor, with consent of the Agency, to perform and complete the Contract; or

4.2 Undertake to perform and complete the Contract itself, through its agents or through independent contractors; or

4.3 Obtain bids or negotiated proposals from qualified contractors acceptable to the Agency for a contract for performance and completion of the Contract, arrange for a contract to be prepared for execution by the Agency and the contractor selected with the Agency's concurrence, to be secured with performance and payment bonds executed by a qualified surety equivalent to the Bonds issued on the Contract, and pay to the Agency the amount of damages as described in paragraph 7 in excess of the Balance of the Contract Sum incurred by the Agency resulting from the Contractor Default; or

4.4 Waive its right to perform and complete, arrange for completion, or obtain a new contractor, and:

4.4.1 After investigation, determine the amount for which it may be liable to the Agency and, within 60 days of waiving its rights under this paragraph, tender payment thereof to the Agency; or

4.4.2 Deny liability in whole or in part and notify the Agency, citing the reasons therefore.

5. Provided Surety has proceeded under paragraphs 4.1, 4.2, or 4.3, the Agency shall pay the Balance of the Contract Sum to either:

5.1 Surety in accordance with the terms of the Contract; or

5.2 Another contractor selected pursuant to paragraph 4.3 to perform the Contract.

5.3 The balance of the Contract Sum due either the Surety or another contractor shall be reduced by the amount of damages as described in paragraph 7.

6. If the Surety does not proceed as provided in paragraph 4 with reasonable promptness, the Surety shall be deemed to be in default on this Bond 15 days after receipt of written notice from the Agency to the Surety demanding that the Surety perform its obligations under this Bond, and the Agency shall be entitled to enforce any remedy available to the Agency.

6.1 If the Surety proceeds as provided in paragraph 4.4, and the Agency refuses the payment tendered or the Surety has denied liability, in whole or in part, then without further notice the Agency shall be entitled to enforce any remedy available to the Agency.

6.2 Any dispute, suit, action or proceeding arising out of or relating to this Bond shall be governed by the Dispute Resolution process defined in the Contract Documents and the laws of the State of South Carolina.

7. After the Agency has terminated the Contractor's right to complete the Contract, and if the Surety elects to act under paragraph 4.1, 4.2, or 4.3 above, then the responsibilities of the Surety to the Agency shall be those of the Contractor under the Contract, and the responsibilities of the Agency to the Surety shall those of the Agency under the Contract. To a limit of the amount of this Bond, but subject to commitment by the Agency of the Balance of the Contract Sum to mitigation of costs and damages on the Contract, the Surety is obligated to the Agency without duplication for:

7.1 The responsibilities of the Contractor for correction of defective Work and completion of the Contract; and

7.2 Additional legal, design professional and delay costs resulting from the Contractor's Default, and resulting from the actions or failure to act of the Surety under paragraph 4; and

7.3 Damages awarded pursuant to the Dispute Resolution Provisions of the Contract. Surety may join in any Dispute Resolution proceeding brought under the Contract and shall be bound by the results thereof; and

7.4 Liquidated Damages, or if no Liquidated Damages are specified in the Contract, actual damages caused by delayed performance or non-performance of the Contractor.

8. The Surety shall not be liable to the Agency or others for obligations of the Contractor that are unrelated to the Contract, and the Balance of the Contract Sum shall not be reduced or set-off on account of any such unrelated obligations. No right of action shall accrue on this Bond to any person or entity other than the Agency or its heirs, executors, administrators, or successors.

9. The Surety hereby waives notice of any change, including changes of time, to the contract or to related subcontracts, purchase orders and other obligations.

10. Notice to the Surety, the Agency or the Contractor shall be mailed or delivered to the address shown on the signature page.

11. Definitions

11.1 Balance of the Contract Sum: The total amount payable by the Agency to the Contractor under the Contract after all proper adjustments have been made, including allowance to the Contractor of any amounts to be received by the Agency in settlement of insurance or other Claims for damages to which the Contractor is entitled, reduced by all valid and proper payments made to or on behalf of the Contractor under the Contract.

11.2 Contractor Default: Failure of the Contractor, which has neither been remedied nor waived, to perform the Contract or otherwise to comply with the terms of the Contract.

SE-357
Labor and Material Payment Bond

KNOW ALL MEN BY THESE PRESENTS, that *(Insert full name or legal title and address of Contractor)*

Name: _____

Address: _____

hereinafter referred to as "Contractor", and *(Insert full name and address of principal place of business of Surety)*

Name: _____

Address: _____

hereinafter called the "surety", are jointly and severally held and firmly bound unto *(Insert full name and address of Agency)*

Name: _____

Address: _____

hereinafter referred to as "Agency", or its successors or assigns, the sum of _____ (\$ _____), being the sum of the Bond to which payment to be well and truly made, the Contractor and Surety bind themselves, their heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

WHEREAS, Contractor has by written agreement dated _____ entered into a contract with Agency to construct

Project Name: CRF DM Law Center Roof Replacement

Project Number: H27-6094-F

Brief Description of Awarded Work, as found on the SE-330, Bid Form: Remove existing gravel surface BUR, Roof Areas A and D. Roof and flashing membrane tested positive for asbestos. Install new roof insulation and three-ply roof with fire-rated bitumen cap sheet over lightweight concrete roof deck. Roof Area B to receive fluid-applied elastomeric deck coating.

in accordance with Drawings and Specifications prepared by *(Insert full name and address of A/E)*

Name: Floyd Abrams Company

Address: 3111 Devine Street

Columbia, South Carolina 29205

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

IN WITNESS WHEREOF, Surety and Contractor, intending to be legally bound hereby, subject to the terms stated herein, do each cause this Labor and Material Payment Bond to be duly executed on its behalf by its authorized officer, agent or representative.

DATED this _____ day of _____, 2_____, BOND NUMBER _____
(shall be no earlier than Date of Contract)

CONTRACTOR

SURETY

By: _____
(Seal)

By: _____
(Seal)

Print Name: _____

Print Name: _____

Print Title: _____

Print Title: _____
(Attach Power of Attorney)

Witness: _____

Witness: _____

(Additional Signatures, if any, appear on attached page)

SE-357

Labor and Material Payment Bond

NOW, THEREFORE, THE CONDITION OF THIS OBLIGATION IS SUCH THAT:

1. The Contractor and the Surety, jointly and severally, bind themselves, their heirs, executors, administrators, successors and assigns to the Agency to pay for all labor, materials and equipment required for use in the performance of the Contract, which is incorporated herein by reference.
2. With respect to the Agency, this obligation shall be null and void if the Contractor:
 - 2.1 Promptly makes payment, directly or indirectly, for all sums due Claimants; and
 - 2.2 Defends, indemnifies and holds harmless the Agency from all claims, demands, liens or suits by any person or entity who furnished labor, materials or equipment for use in the performance of the Contract.
3. With respect to Claimants, this obligation shall be null and void if the Contractor promptly makes payment, directly or indirectly, for all sums due.
4. With respect to Claimants, and subject to the provisions of Title 29, Chapter 5 and the provisions of §11-35-3030(2)(c) of the SC Code of Laws, as amended, the Surety's obligation under this Bond shall arise as follows:
 - 4.1 Every person who has furnished labor, material or rental equipment to the Contractor or its subcontractors for the work specified in the Contract, and who has not been paid in full therefore before the expiration of a period of ninety (90) days after the date on which the last of the labor was done or performed by him or material or rental equipment was furnished or supplied by him for which such claim is made, shall have the right to sue on the payment bond for the amount, or the balance thereof, unpaid at the time of institution of such suit and to prosecute such action for the sum or sums justly due him.
 - 4.2 A remote claimant shall have a right of action on the payment bond upon giving written notice by certified or registered mail to the Contractor within ninety (90) days from the date on which such person did or performed the last of the labor or furnished or supplied the last of the material or rental equipment upon which such claim is made.
 - 4.3 Every suit instituted upon a payment bond shall be brought in a court of competent jurisdiction for the county or circuit in which the construction contract was to be performed, but no such suit shall be commenced after the expiration of one year after the day on which the last of the labor was performed or material or rental equipment was supplied by the person bringing suit.
5. When the Claimant has satisfied the conditions of paragraph 4, the Surety shall promptly and at the Surety's expense take the following actions:
 - 5.1 Send an answer to the Claimant, with a copy to the Agency, within sixty (60) days after receipt of the claim, stating the amounts that are undisputed and the basis for challenging any amounts that are disputed.
 - 5.2 Pay or arrange for payment of any undisputed amounts.
 - 5.3 The Surety's failure to discharge its obligations under this paragraph 5 shall not be deemed to constitute a waiver of defenses the Surety or Contractor may have or acquire as to a claim. However, if the Surety fails to discharge its obligations under this paragraph 5, the Surety shall indemnify the Claimant for the reasonable attorney's fees the Claimant incurs to recover any sums found to be due and owing to the Claimant.
6. Amounts owed by the Agency to the Contractor under the

Contract shall be used for the performance of the Contract and to satisfy claims, if any, under any Performance Bond. By the Contractor furnishing and the Agency accepting this Bond, they agree that all funds earned by the contractor in the performance of the Contract are dedicated to satisfy obligations of the Contractor and the Surety under this Bond, subject to the Agency's prior right to use the funds for the completion of the Work.

7. The Surety shall not be liable to the Agency, Claimants or others for obligations of the Contractor that are unrelated to the Contract. The Agency shall not be liable for payment of any costs or expenses of any claimant under this bond, and shall have under this Bond no obligations to make payments to, give notices on behalf of, or otherwise have obligations to Claimants under this Bond.

8. The Surety hereby waives notice of any change, including changes of time, to the Contract or to related Subcontracts, purchase orders and other obligations.

9. Notice to the Surety, the Agency or the Contractor shall be mailed or delivered to the addresses shown on the signature page. Actual receipt of notice by Surety, the Agency or the contractor, however accomplished, shall be sufficient compliance as of the date received at the address shown on the signature page.

10. By the Contractor furnishing and the Agency accepting this Bond, they agree that this Bond has been furnished to comply with the statutory requirements of the South Carolina Code of Laws, as amended, and further, that any provision in this Bond conflicting with said statutory requirements shall be deemed deleted herefrom and provisions conforming to such statutory or other legal requirement shall be deemed incorporated herein. The intent is that this Bond shall be construed as a statutory Bond and not as a common law bond.

11. Upon request of any person or entity appearing to be a potential beneficiary of this bond, the Contractor shall promptly furnish a copy of this Bond or shall permit a copy to be made.

12. Any dispute, suit, action or proceeding arising out of or relating to this Bond shall be governed by the laws of the State of South Carolina.

13. DEFINITIONS

13.1 Claimant: An individual or entity having a direct contract with the Contractor or with a Subcontractor of the Contractor to furnish labor, materials, or equipment for use in the performance of the Contract. The intent of this Bond shall be to include without limitation in the terms "labor, materials or equipment" that part of water, gas, power, light, heat, oil, gasoline, telephone service or rental equipment used in the Contract, architectural and engineering services required for performance of the Work of the Contractor and the Contractor's Subcontractors, and all other items for which a mechanic's lien might otherwise be asserted.

13.2 Remote Claimant: A person having a direct contractual relationship with a subcontractor of the Contractor or subcontractor, but no contractual relationship expressed or implied with the Contractor.

13.3 Contract: The agreement between the Agency and the Contractor identified on the signature page, including all Contract Documents and changes thereto.

DIVISION 1

GENERAL REQUIREMENTS

SECTION 01010

SUMMARY OF WORK

PART 1 GENERAL

- 1.1 WORK INCLUDED:** Work covered by this contract includes furnishing all labor, materials and equipment necessary to perform the work in accordance with the Contract Documents.
- 1.1.1 Contractor shall verify all roof drains are free flowing, not clogged. Report conditions to Consultant prior to any demolition.
 - 1.1.2 Remove and dispose of all out-of-service roof equipment, roof penetrations, conduit.
 - 1.1.3 Locate any plugged, flashed over, secondary roof scupper drains.
 - 1.1.4 Verify structural supports for radio antenna guy wire roof anchors.
 - 1.1.5 Verify flashing height for exhaust fan roof curbs, adding additional treated wood blocking to provide eight (8) inches height.
 - 1.1.6 Disconnect and remove existing lightning protection cable and air terminals. Lower to grade, store and protect for reinstallation at project completion.
 - 1.1.7 Remove pitch pockets at existing lightning protection ground cable leads. Prepare cable extension for installation through SBC goose neck flashing unit.
 - 1.1.8 Remove and dispose of existing sheet metal flashing, counterflashing, etc.
 - 1.1.9 Remove and dispose of existing gravel surface asphalt BUR. Roof membrane specimen tested positive for asbestos-containing material.
 - 1.1.10 Remove and dispose of asphalt flashing membrane. Flashing membrane specimens tested positive for asbestos-containing material.
 - 1.1.11 Remove and dispose of damaged or disintegrated vermiculite lightweight concrete roof deck and replace with new NVS Premix lightweight concrete to match existing (unit price).
 - 1.1.12 Repair surface of lightweight vermiculite to eliminate former base sheet fastener damage to surface.
 - 1.1.13 Remove disbonded or surface laitence; repair with NVS Premix and/or Zonopatch to prepare surface to receive base sheet (Unit Price).
 - 1.1.14 Contractor shall install new fall protection steel stanchions for Roof Area A mechanically anchored to concrete structural roof deck. Steel stanchions shall be provided to Contractor from USC.
 - 1.1.15 Fall protection anchoring devices for Penthouse 1 and Penthouse 2 shall be provided by USC to Contractor for reinstallation.

- 1.1.16 Install rosin sized sheathing paper loose laid over prepared surface of lightweight vermiculite concrete.
- 1.1.17 Install PP28 Asphalt base sheet over rosin sized sheathing paper mechanically fastened to lightweight vermiculite concrete roof eck with JM Ultra Lok base sheet fasteners.
- 1.1.18 Prime 2-3/4 inches galvalume FM 1-90 plate full strength prior to installation of two-ply temporary roof.
- 1.1.19 Install two-ply fiberglass reinforced asphalt ply sheet in hot asphalt solid mopped to base sheet (Roof Area A).
- 1.1.20 Prime surface of masonry walls, precast concrete parapet panels and sheet metal curbs to receive new flashing plies.
- 1.1.21 Extend temporary roof plies up vertical surfaces \pm four (4) inches.
- 1.1.22 Modify existing precast concrete parapet overflow scupper drains (Roof Area A) to receive new stainless steel scupper drains.
- 1.1.23 Install treated wood blocking for parapet scupper drains, gravel stop and to secure new retrofit roof drains.
- 1.1.24 For Roof Area A, install one layer of 3/4-inch perlite insulation in solid mopping of hot asphalt over two-ply temporary roof.
- 1.1.25 Install new aluminum retrofit roof drains into existing prepared cast iron roof drains, secured to treated wood blocking.
- 1.1.26 Install SBC Industries lightning protection system ground cable roof penetration flashing. Extend cable extension through gooseneck prior to installation.
- 1.1.27 Fabricate and install new stainless steel precast concrete secondary parapet scupper drains.
- 1.1.28 Install new three-ply fiberglass reinforced Premier asphalt felt BUR in solid moppings of hot asphalt.
- 1.1.29 Install light glaze coat of hot asphalt over three-ply roof membranes.
- 1.1.30 Install wood fiberboard cant strip at all vertical projections through roof assembly.
- 1.1.31 Prime masonry and metal surfaces to receive new membrane flashing.
- 1.1.32 Prime stainless steel secondary roof drainage scuppers prior to installation of membrane flashing.
- 1.1.33 Remove and dispose of damaged or deteriorated wood nailers, wood blocking and replace with new treated wood blocking to match existing (Unit Price).

- 1.1.34 Install new treated wood blocking on precast concrete wall panels, masonry parapets and penthouse perimeter wood nailers.
- 1.1.35 Remove and dispose of damaged or deteriorated galvanized steel form deck and replace with new 1-1/4 inches galvanized steel from deck (Unit Price).
- 1.1.36 Clean, wire brush and prime rusted or deteriorated galvanized steel from deck and apply two coats of Sherwin Williams KemKromik Universal Metal Primer (Unit Price).
- 1.1.37 Install JM Perma Flush flashing system for unconventional roof penetration flashing to new roof membrane assembly.
- 1.1.38 Place existing cable, wiring conduit on new OMC EPDM pipe guard roof supports.
- 1.1.39 Fabricate and place new treated wood sleepers and walk pads for lightning protection cable clips and air terminals.
- 1.1.40 Modify existing roof curbs for equipment, exhaust fans and install new membrane flashing and granular surface SBS modified bitumen membrane flashing.
- 1.1.41 Terminate all membrane and modified bitumen flashing six (6) inches on center.
- 1.1.42 Fabricate and install new 22 gage galvanized steel continuous locking cleat for gravel stop, fascia extension, coping cop and wide masonry parapet flashing (Roof Area D).
- 1.1.43 Install fire-rated granular surface SBS modified bitumen cap sheet in JM MBR flashing cement, a two component, elastomeric cold application adhesive (Roof Area A).
- 1.1.44 Fabricate and install stainless steel sill flashing/counterflashing for penthouse door. Remove and replace door threshold after stainless steel sill is installed.
- 1.1.45 Install roof protection walk pads at penthouse door, steps.
- 1.1.46 Owner shall remove surveillance security cameras and reinstall after roof completion.
- 1.1.47 For Roof Area B, Plaza Deck, verify roof drains are free flowing. Report any stoppage at once to Consultant. Owner shall employ plumbers to free any stoppage prior to new deck system installation.
- 1.1.48 Shot blast concrete Plaza Deck to remove all prior deck coatings, paint to prepare deck surface for new pedestrian waterproofing system.
- 1.1.49 Side walls, curbs shall be prepared as deck. Contractor shall protect steel pipe post and rails from damage during preparation.
- 1.1.50 Contractor shall prepare deck surface around deck drains to receive specified sealant or coating to maintain watertight seal.
- 1.1.51 Contractor shall install pedestrian waterproof system primer, base coat, top coat with ceramic color coating for quartz granules, and clear finish coat.

- 1.1.52 Contractor shall install similar system ±six (6) inches height at precast concrete side walls. Similar, non quartz aggregate coating shall be applied to curbs, curb top and precast parapets at North and South perimeter.
- 1.1.53 Install Tremco Vulkem 227 sealant at deck drains.
- 1.1.54 For Roof Areas D, D1, D2, D3, D4, D5, remove and dispose of existing gravel surface and smooth surface asphalt BUR. Prepare surfaces of vermiculite lightweight concrete to receive rosin sized sheathing paper and mechanical fastened PP 28 base sheet.
- 1.1.55 Unit Prices 1, 2, 3, 4 and 5 also apply to and include all "D" roof areas.
- 1.1.56 For all Area D roofs, loose lay one ply of rosin sized sheathing paper and mechanically fast PP 28 base sheet with JM LWC base sheet fasteners. Prime fastener FM 1-90 galvalume plate.
- 1.1.57 For Roof Area D, install two-ply asphalt BUR over base sheet.
- 1.1.58 For all Area D roofs, install new tapered Perlite roof insulation in solid mopping of hot asphalt.
- 1.1.59 Install aluminum retrofit roof drains into each existing roof drain, mechanically fastened to existing roof drain body and wood blockings.
- 1.1.60 Install flashing and stripping plies at roof drains prior to installation of 3 feet x 3 feet, four pound lead flashing sheet.
- 1.1.61 Install three-ply asphalt BUR in solid mopping of hot asphalt.
- 1.1.62 Install light asphalt glaze coat over BUR membrane.
- 1.1.63 Mechanically fastened galvanized steel hat channels to masonry walls, Roof Areas D-2, D-3, D-4, and Area D. Mark anchor locations for reinstallation of existing steel ladders after sheet metal wall panels are installed.
- 1.1.64 Install Kynar finish 24 gage galvalume wall panels mechanically fastened to hat channels.
- 1.1.65 Install 2 inches blanket insulation with wall panels.
- 1.1.66 Fabricate and install sheet metal corner closures, trim and closure/counterflashing.
- 1.1.67 Install EPDM formed wall panel closure at bottom of panel.
- 1.1.68 Install wood fiber cant strips at masonry and precast walls, parapet after priming surfaces.
- 1.1.69 Install two-ply membrane and granular surface SBS-modified bitumen flashing membrane.

- 1.1.70 Fabricate and install new stainless steel secondary parapet scupper drains.
- 1.1.71 Fabricate and install new five (5) inches round parapet secondary scupper drains, insert into existing pipe and seal. Mount drainage flange to new wood blocking.
- 1.1.72 Fabricate and install new Kynar finish 24 gage galvalume sheet metal sloping masonry wall cap and counterflashing under new coping cap. All joints in sloping cap shall include 5/8 inch standing seams.
- 1.1.73 Fabricate and install 22 gage galvanized steel locking cleat for precast panel cap.
- 1.1.74 Remove horizontal sealant at offset precast wall panel bottom joint. Clean joints, fill with cement grout to match color of precast.
- 1.1.75 Remove sealant at cast-in-place metal reglet in precast wall panel (Roof C). Clean joint for installation of new Kynar Finish 24 gage galvalume sheet metal counterflashing (D-1, D-5).
- 1.1.76 Install DynaGlas FR granular surface cap sheet in JM cold application adhesive.
- 1.1.77 Complete membrane flashing with Dynaflex SBS granular surface modified bitumen membrane.
- 1.1.78 Mechanically fasten (terminate) flashing with 1/8 inch x 1-1/4 inches aluminum termination bar or simplex nails in wood blocking six (6) inches on center.
- 1.1.79 At project completion, Contractor will water test each roof drain to ensure free flowing condition and document by a written statement to be included with closeout documents.

1.2 CONTRACT METHOD

- 1.2.1 Construct the work as a single lump sum contract except for the items that are bid on a unit price basis as indicated on the Bid Form.

1.3 REFERENCE STANDARDS

- 1.3.1 For products specified by association or trade standards, comply with requirements of the standard, except when more rigid requirements are specified or are required by applicable codes.

1.4 SITE CONDITIONS

- 1.4.1 Information in this section is provided only to establish a general description. The Contractor is responsible for visiting the site and satisfying themselves as to the existing conditions, size of roof areas, etc. before submitting their bid.
- 1.4.2 Existing Roof Construction: The existing roof construction consists of gravel surface asphalt built-up roof membrane with asphalt felt membrane flashing. Parapet and masonry flashing includes sheet metal counterflashing with a parapet cast-in-place reglets and through wall flashing for masonry. Roof membrane is mopped to base sheet mechanically fastened to vermiculite lightweight concrete deck. Assembly does not

include roof insulation. Roof membrane and membrane flashing specimens tested positive for chrysotile, an asbestos-containing material (ACM), which requires disposal in an approved hazardous landfill.

Roof Area "B" is a concrete plaza with internal deck drains and concrete ramps at entry locations. Concrete deck surface has a seamless deck coating.

- 1.4.3 New Construction: Existing gravel surface BUR shall be removed. Surface of vermiculite lightweight deck shall be prepared to receive new roof insulation and three-ply asphalt BUR. New asphalt felt membrane and modified bitumen flashing shall be installed at masonry walls, parapets and precast concrete wall panels. New secondary drainage scupper drains shall be installed. For Roof Area D, masonry parapet walls shall be clad with new sheet metal wall panels attached to new sheet metal hat channels. All masonry parapets and precast concrete wall panels shall have new sheet metal coping cap and flashing. A granular surface fire-rated modified bitumen cap sheet shall complete BUR assembly. Cap sheet shall be installed with cold application adhesive (two component adhesive for Area A; single component for all Area D roofs.)

For roof area "A" new safety anchors will be installed on the new roof assembly basically around the perimeter of the entire roof. Also, for Penthouse 1 and Penthouse 2 there will be 1 each new safety anchor installed. The Owner will furnish new fabricated steel pipe and plate anchor for installation by roofing contractor. For penthouse 1 and 2, the Owner will also furnish steel angles, plates required for installation of the new safety anchors on these two roofs with lightweight vermiculite concrete and steel form deck.

Roofing contractor is required to remove the existing lightweight vermiculate concrete on the main roof deck to allow for their installation of new safety anchors. The safety anchors will be mechanically fastened to existing structural concrete roof deck. It is the contractor's responsibility to purchase required attaching bolts, fasteners, etc. to secure base plates for safety anchors. Chao and Associates sketches (1-4) for safety anchors are attached. It is then the contractor's responsibility to replace vermiculite lightweight concrete with NVS Premix lightweight concrete to close opening at each of the safety anchors. The safety anchors for Penthouse 1 and 2 shall be installed as indicated by structural engineers sketch. Roofing contractor is responsible for removing existing vermiculite lightweight concrete to provide access for the installation

1.5 WORK SEQUENCE

- 1.5.1 Work shall proceed in an orderly operation. Phased construction is unacceptable.
- 1.5.2 The Contractor shall strive to cause a minimum of disruption to the building operations and occupancy during roofing activities.

1.6 CONTRACTOR USE OF PREMISES

- 1.6.1 Contractor shall provide OSHA approved hard hats for all crew members working on roof. Contractor shall provide fall protection, safety harness and rope for all crew members while and on roof. This is mandatory.

- 1.6.2 Limit use of premises for construction operations to allow for Owner occupancy.
- 1.6.3 Coordinate use of premises under direction of Owner.
- 1.6.4 The Contractor shall be held liable for any damages to the building, building contents, or occupants resulting from work under this contract. All necessary precautions shall be taken to protect the occupants and the building during the construction period.
- 1.6.5 The Contractor is to maintain the existing building in a safe and weather tight condition throughout the construction period. The Contractor is to repair any damage caused by him or any of his subcontractors.
- 1.6.6 The Contractor is to confine his operations at the site of the building. The site beyond this building is not to be disturbed. Parking for the Contractor and his employees will be identified by the Owner.
- 1.6.7 The Contractor is to keep existing driveways and entrances serving the premises clear and available at all times. Do not use for parking or storage of materials or equipment. The stockpiling of materials must be confined to the area identified by the Owner.
- 1.6.8 The Contractor and his personnel are to lock their vehicles and other mechanical or motorized construction equipment when parked and unattended. Do not leave vehicles or equipment unattended with motor running or ignition key in place.
- 1.6.9 Contractor shall erect OSHA approved scaffold stair to provide access to Roof Area A.
- 1.6.10 Open fires will not be permitted on the premises.
- 1.6.11 Utilities and Services: The Contractor will be provided water to the extent of the existing sources. The Contractor shall be responsible for any taps or connections that may be needed or desired by him. He is also responsible for getting the service to any location where needed or desired. The Contractor will be provided without charge reasonable quantities of available utilities, however, if the services are abused, they will be withdrawn. The Contractor shall provide temporary portable electric generators for electricity required during construction.
- 1.6.12 Contractor's Conduct: The following concerns are expressed to the Contractor and he is asked to ensure that all employees, subcontractors, and suppliers are aware of these warnings.
 - 1.6.12.1 No drugs, alcohol, or firearms will be permitted on the grounds of the facility.
 - 1.6.12.2 There will be no favors or fraternizing with occupants or employees of the facility.
 - 1.6.12.3 Contractor and sub-contractors are to take necessary precautions to protect all occupants and employees of the facility, Contractor personnel, and personal property from any damage from his operations.
 - 1.6.12.4 The Contractor, subcontractors, and material suppliers are to be careful during placement of materials and equipment. The Owner will in no way be responsible for equipment and materials lost as the result of being left unattended or misplaced.

- 1.6.12.5 The use of foul, obscene, or abusive language by the Contractor's or subcontractor's employees is prohibited on the grounds of the facility. Violations of this policy may result in the dismissal of the Contractor.
- 1.6.12.6 Smoking or use of tobacco products by the Contractor or subcontractor's employees is prohibited on the grounds of this facility. Violations of this policy may result in the dismissal of the Contractor.

1.7 OWNER OCCUPANCY REQUIREMENTS

- 1.7.1 Owner will occupy premises during entire period of construction for the conduct of his normal operations. Cooperate with the Owner's operations.

PART 2 PRODUCTS

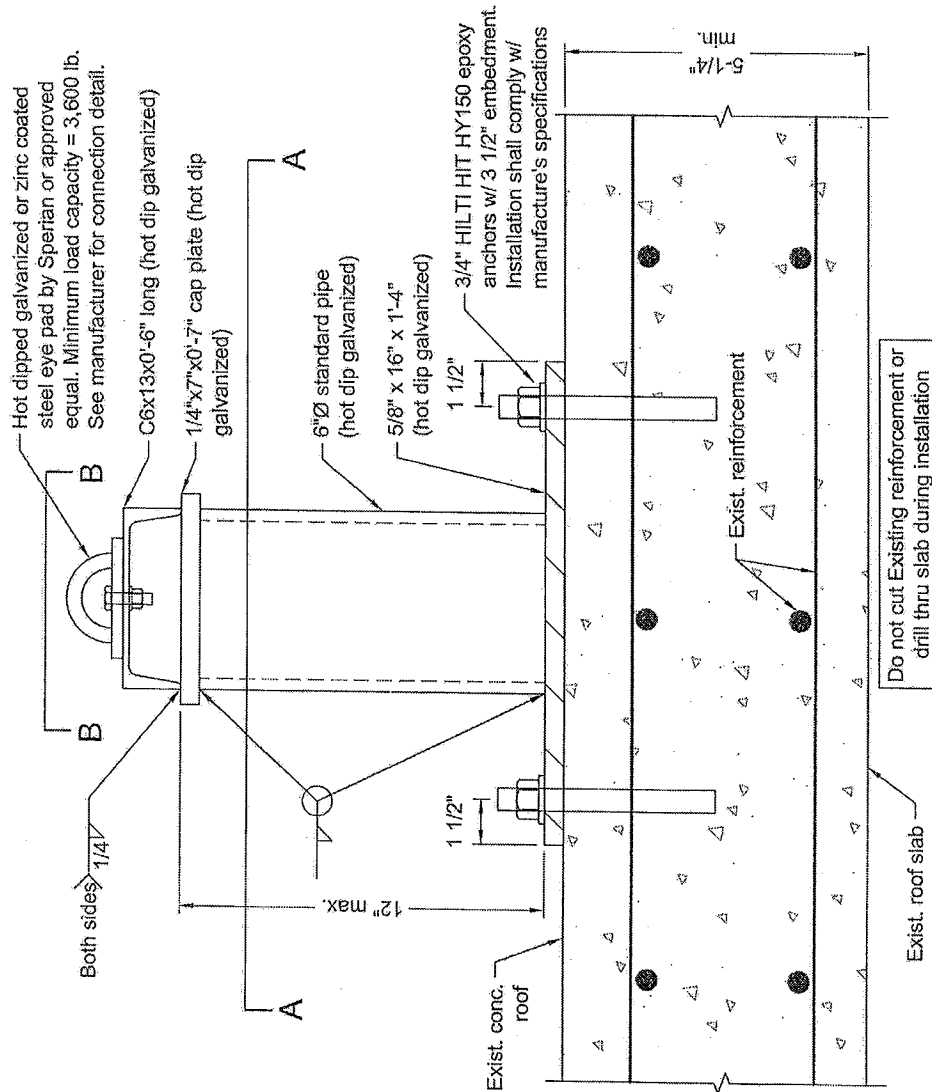
Not used.

PART 3 EXECUTION

See attached four (4) sketches for safety anchors prepared by Chao and Associates.

Roof Safety Anchor Sheet 1 of 4
Roof Safety Anchor Sheet 2 of 4
Roof Safety Anchor Sheet 3 of 4
Roof Safety Anchor Sheet 4 of 4

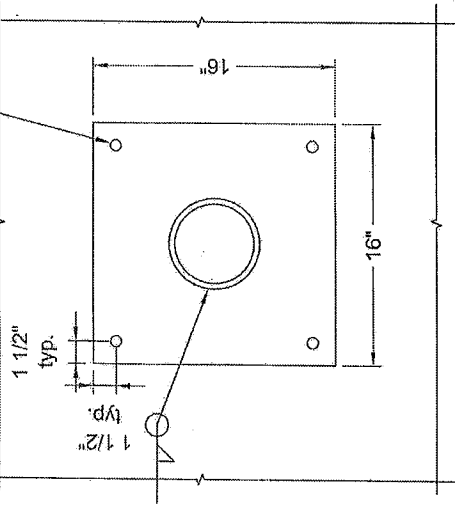
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Notes:

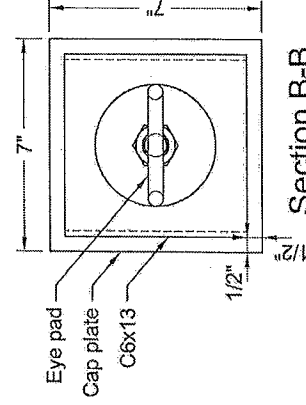
- Design based on provided existing structural drawing and assumed 3000psi conc. roof slab.
- Total design ultimate load is 3,600lb (with a safety factor of 2)
- Contractor shall field verify the existing condition with design requirements. The Engineer shall be notified of any deviation from this detail.
- Epoxy anchor bolt installation shall comply w/ manufacture's specifications. (Do not over torque anchor when tightening)

3/4" HILTI HIT HY150 epoxy anchors w/ 5" embedment. Installation shall comply w/ manufacture's specifications



Section A-A

Scale: 1-1/2" = 1'-0"



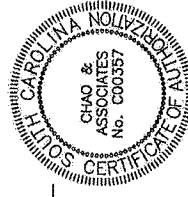
Section B-B

Scale: 3" = 1'-0"

Typical Safety Anchor

@ Concrete Slab

Scale: 3" = 1'-0"

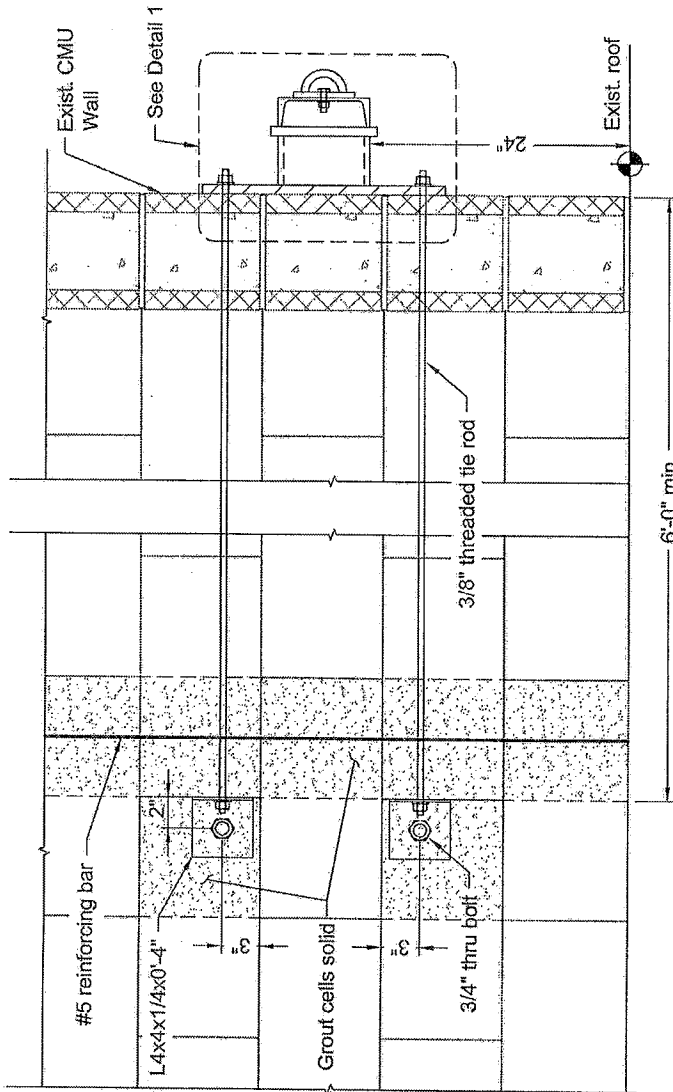


Roof Safety Anchor

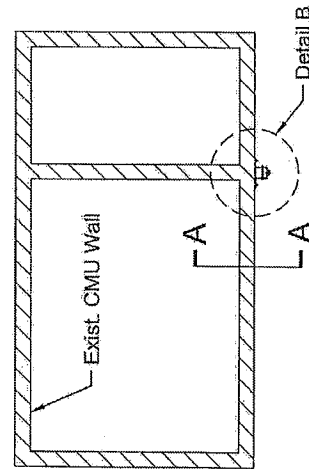
June 21, 2012

C&A# 392520B-12

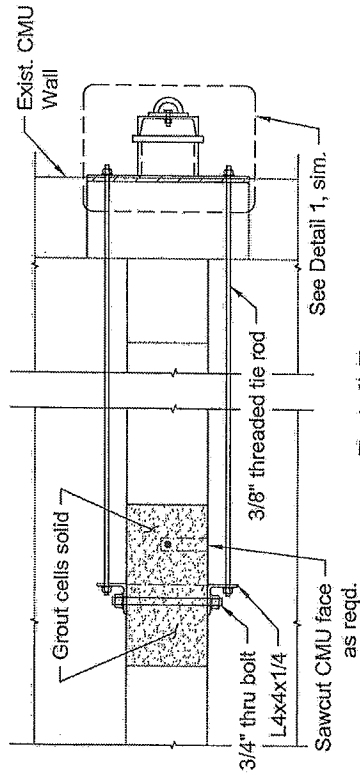
Sheet 1 of 4



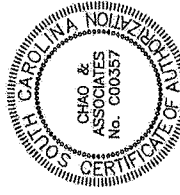
Elevation A-A
Scale: 1 1/2" = 1'-0"



Key Plan
Scale: NTS



Detail B
Scale: 1" = 1'-0"

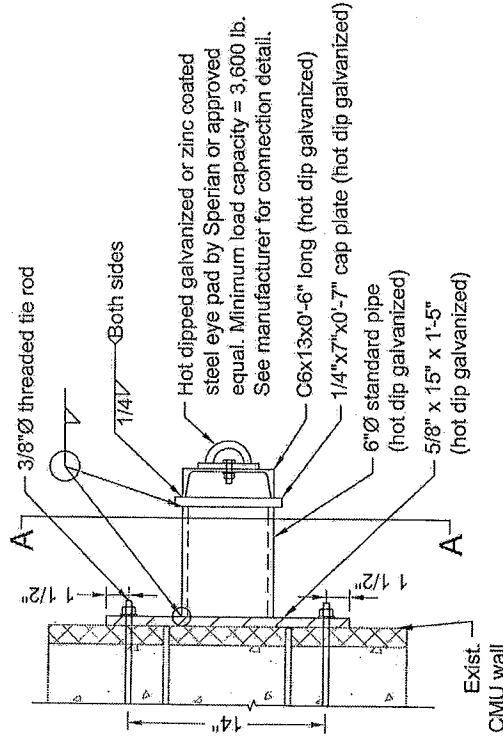


Typical Safety Anchor Base Detail

@ CMU wall
Scale: 1-1/2" = 1'-0"

Roof Safety Anchor
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Sheet 3 of 4

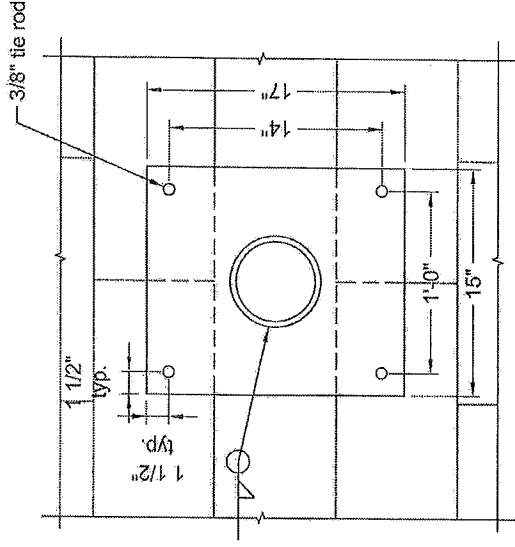


Detail 1

Scale: 1-1/2" = 1'-0"

General Notes:

- Design Specifications: International Building Code (2006 Edition).
Design Loads:
3,600 lbs (any direction)
 - Where a detail is shown on Structural Drawings for one condition, it shall apply to all similar or like conditions, unless noted or shown otherwise on plans.
 - All items shall be tightly anchored or attached square, plumb, and true, or in other planes and shapes as shown on the drawings. Joints shall be tight, even, and free of offsets. No field altering of any members will be allowed that will cause them not to be in accordance with the drawings and specifications, without written approval of the Project Engineer.
 - The dimensions shown with a suffix "x" are approximate and shall be verified by the Contractor before fabrication.
 - If the Contractor finds a difference between these drawings & existing conditions, or finds any other conditions which prohibit execution of the work as directed in these drawings, the Contractor shall notify the Engineer immediately.
 - Any revision/modification to the original design during the shop drawing process, the Contractor shall clearly cloud line all the changes and shall receive approval from the Engineer in writing before fabrication. Any costs associated with correcting the unapproved change shall be at the Contractor's expense.
- Masonry:**
- Masonry materials and workmanship shall comply with "Building code requirements for masonry structures" (ACI 530-05/ASCE 5-05).
 - Vertical reinforcing shall be provided where shown or noted on plans/details, and shall be grouted with 3000 PSI coarse grout per ASTM C476.

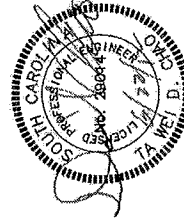
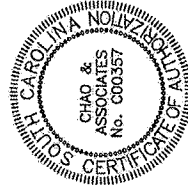


Section A-A

Scale: 1-1/2" = 1'-0"

Structural and Miscellaneous Steel

- All structural and miscellaneous steel shall conform to the Thirteenth Edition of the AISC "Specification for the Design, Fabrication & Erection of Structural steel for Buildings" and all its supplements, and to the AISC "Code of Standard Practice for Steel Buildings and Bridges".
- All structural steel shall conform to ASTM A-36, FY=36,000 PSI unless otherwise noted.
- All steel pipes shall conform to A-53 grade B, FY=35,000 PSI.
- All welded connections shall be done with E70XX electrodes with 3/16" min. material. All welding shall comply with AWS D1-1 structural welding code the latest edition.
- All bolts shall be A325 bolts, unless otherwise noted.
- Fabrication and assembly of bolted connections shall comply with applicable sections of AISC "Specification for Structural Joints using ASTM A325 or A490 bolts."
- The use of a gas-cutting torch in the field for cutting holes or for correcting fabrication errors will not be permitted on structural framing members except w/ the written approval of the Engineer for each specification.
- All structural steel shall be hot-dipped galvanized according to ASTM 123. All connections, hardware shall be hot-dipped galvanized according to ASTM 153. All galvanizing damaged by welding shall be repaired by Z.R.C. cold galvanizing paint.



Roof Safety Anchor
June 21, 2012
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SECTION 01021

CASH ALLOWANCES

PART 1 GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- 1.2.1 This Section specifies administrative and procedural requirements for allowances and unit prices.
- 1.2.2 An Allowance is an amount determined by the Owner for work of indeterminate scope and cost. Each Bidder shall include the allowance amount in the Bid price.
- 1.2.3 The cost for work performed by Allowance covers items not anticipated or specifically delineated in documents and shall be determined in accordance with the Change Order procedures of the Contract Documents.
- 1.2.4 Contingency Allowance for shingle and BUR scope of Work, as specified in these Contract Documents, is Ten Thousand Dollars (\$10,000.00).

PART 2 PRODUCTS

Not used.

PART 3 EXECUTION

Not used.

END OF SECTION

SECTION 01025

MEASUREMENT AND PAYMENT

PART 1 GENERAL

1.1 SUMMARY

- 1.1.1 A payment or payments made to Contractor for work performed shall not constitute acceptance or approval of the work and shall in no way relieve Contractor from the requirements of the Contract.
- 1.1.2 All sums received by the Contractor for any part or parts of the work furnished or performed by a Subcontractor shall be paid promptly to the latter by Contractor and while in the hands of the Contractor shall constitute trust funds held for the use and benefit of Owner.
- 1.1.3 Contractor shall submit with payment requests lien releases from material suppliers which state that suppliers have been paid for materials supplied to the project. Payment requests may be delayed if not received in a timely manner.
- 1.1.4 If payments are to be made on account of materials or equipment not incorporated in the work, but delivered and suitably stored at the Site, or at such other location agreed upon in writing, such payments shall be conditioned upon submission by Contractor of bills of sale or other documents satisfactory to the Owner establishing Owner's title to such materials or equipment or otherwise protecting Owner's interest therein including the prepayment of applicable insurance and transportation charges to the Site.

1.2 APPLICATION FOR PAYMENT

- 1.2.1 Monthly Application for Payment shall be submitted to Consultant for review and forwarding to Owner in quadruplicate on AIA Documents G702 and G703. Provided an Application for Payment is received by the Consultant not later than the last day of a month, the Owner shall make payment to the Contractor not later than the last day of the following month. If an Application for Payment is received by the Consultant after the application date fixed above, payment shall be made by the Owner within 21 days, but not later than 30 days after receiving approved Application for Payment from Consultant.
- 1.2.2 Ninety-six and one half percent (96.5%) of the value of materials stored at the site and Ninety-six and one half percent (96.5 %) of work accomplished, less previous payments, shall be paid by Owner to Contractor in monthly installments upon Consultant's certification.
- 1.2.3 Final payment shall be made 30 days after Consultant has certified completion to the Owner, and specified warranties are provided in accordance with Section 01700, Paragraph 1.4.2.

1.3 UNIT PRICES

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

1.3.2 Before proceeding with work, Contractor shall survey the work to be covered under Unit Prices in the presence of the Consultant for verification of quantities for the Project.

1.3.3 Unit Price Schedule: Unit Prices shall include costs of materials, delivery, labor (to remove and replace), insurance, rental of tools and equipment, overhead and margin of profit.

1. Remove disbonded or surface laitence, repair with NVS Premix and/or Zonopatch to prepare surface to receive base sheet.

2,500 SF @ \$ _____/SF = \$ _____(LS)

2. Remove and dispose of damaged or disintegrated vermiculite lightweight concrete roof deck and replace with new NVS Premix lightweight concrete to match existing.

1,800 SF @ \$ _____/SF = \$ _____(LS)

3. Remove and dispose of damaged or deteriorated galvanized steel form deck and replace with new 1-1/4 inches galvanized steel form deck.

1,500 SF @ \$ _____/SF = \$ _____(LS)

4. Clean, wire brush and prime rusted or deteriorated galvanized steel form deck and apply two coats of Sherwin Williams ChemKromix.

1,000 SF @ \$ _____/SF = \$ _____(LS)

5. Remove and dispose of damaged or deteriorated wood nailers, wood blocking and replace with new treated wood blocking to match existing.

800 BF @ \$ _____/BF = \$ _____(LS)

PART 2 PRODUCTS

Not used.

PART 3 EXECUTION

Not used.

END OF SECTION

SECTION 01300

SUBMITTALS

PART 1 GENERAL

1.1 PROCEDURES

- 1.1.1 Each transmitted document shall identify the project name and Contractor. Material submittals shall also identify the type and trade name of materials, material manufacturer, intended use and specification number. Deviations from Contract Documents shall be identified.
- 1.1.2 Submittals shall bear the Contractor's stamp and indicate approval and date.
- 1.1.3 After Consultant's review of materials, revise and resubmit, as required, identifying changes made since previous submittal.

1.2 BID SUBMITTALS

- 1.2.1 Certification from the manufacturer of materials bid that the contractor is approved by the manufacturer for application of the roofing system being installed on this Project. The letter shall certify that the contractor has satisfactorily applied the type of roof specified on projects which have been completed for at least 5 years under warranty.
- 1.2.2 Letter from the roofing materials manufacturer acknowledging the brand name and type of insulation and tapered insulation proposed for use by contractor and his approval of the use of this insulation with his products for this Project.
- 1.2.3 Letter of intent from the manufacturer that he will furnish warranty as specified.
- 1.2.4 Submit lightweight concrete contractor certification letter.
- 1.2.5 Submit special documents with Bid. Contractor submittals shall be forwarded to Architect within 7 calendar days after receipt of signed Contract. The successful Contractor shall submit 6 copies of the required information to the Consultant.

1.3 SHOP DRAWINGS, PRODUCT DATA, AND SAMPLES

- 1.3.1 Refer to Section 01340.
- 1.3.2 Contractor submittals shall be forwarded to Architect within 7 calendar days after receipt of signed Contract. The successful Contractor shall submit 4 copies of the required information to the Consultant.

1.4 CONTRACTOR INFORMATION

- 1.4.1 Submit to Architect on or before Pre-Construction Conference the following documents:

- 1.4.1.1 Emergency contact information including phone numbers of principals, superintendent, foreman, and project manager.
- 1.4.1.2 Foreman's Statement (copy attached).
- 1.4.1.3 Contractor's Schedule of Values, AIA Document G703.
- 1.4.1.4 Contractor's Construction Schedule indicating weekly goals and Substantial Completion dates for each roof area.
- 1.4.1.5 Four copies of Material Safety Data Sheets for all materials to be incorporated in roof assembly.
- 1.4.1.6 W-9, Request for Taxpayer Identification and Certification.
- 1.4.1.7 Contractors Fall Protection Plan
- 1.4.1.8 Procedures and methods for the removal of asbestos containing for the removal of asbestos containing (ACM) materials listed in Sections 2080 and Section 2084 of these documents.

PART 2 PRODUCTS

2.1 MANUFACTURERS

- 2.1.1 Membrane and associated membrane flashing are to be manufactured and labeled by the membrane materials manufacturer or, if supplied by a different manufacturer, approved for use by membrane manufacturer in compliance with warranty requirements.

PART 3 EXECUTION

3.1 TIMING

- 3.1.1 Make all submittals in accordance with schedules specified herein.
- 3.1.2 A minimum of 10 days shall be allowed for review by the Architect following his receipt of the submittal.
- 3.1.3 If a submittal contains more than 10 shop drawings, Contractor shall indicate which drawings must be returned within 10 days. Architect shall have an additional 10 days to return the balance of submittals.
- 3.1.4 Delays caused by tardiness in receipt of submittals shall not be an acceptable basis for extension of the Contract completion date.

3.2 REVIEW

- 3.2.1 Review by the Consultant shall be directed to the general method of construction and shall not be construed as a complete check nor shall the review relieve the contractor from responsibility for errors and/or omissions that may exist.
- 3.2.2 The notations "Reviewed" or "Make Corrections as Noted" shall authorize the Contractor to proceed with fabrication, purchase, or both subject to the revisions, if any, required by the Consultants review comments.
- 3.2.3 The Contractor shall make all revisions as required. If the Contractor considers any required revisions to constitute a change, he shall notify the Consultant under the

provisions of the General Conditions.

- 3.2.4 Only those revisions directed or approved by the Consultant shall be shown on the re-submittal.
- 3.2.5 After a submittal has been approved by the Consultant, substitution of materials, equipment and/or procedures shall not be considered unless accompanied by an acceptable explanation for the substitution.

FOREMAN'S STATEMENT

CRF DM LAW CENTER ROOF REPLACEMENT
UNIVERSITY OF SOUTH CAROLINA
701 MAIN STREET
COLUMBIA, SC 29208

I, _____ (Name), an employee of _____ (Contractor)
hereby state that I have my own personal copy of the project specifications and drawings, have
thoroughly read them and have visited the work site.

By _____

Date _____

END OF SECTION

SECTION 01340

SHOP DRAWINGS, PRODUCT DATA AND SAMPLES

PART 1 GENERAL

1.1 SHOP DRAWINGS

- 1.1.1 Shop drawings are drawings, diagrams, illustrations, schedules, performance charts, brochures and other data prepared by the Contractor, Subcontractor, manufacturer, supplier or distributor which illustrate some portion of the Work.
- 1.1.2 Shop drawings are to be submitted by transmittal letter with the following information:
 - A. Consultant's Project Number
 - B. Submittal Data
 - C. Submittal Number
 - D. Project Title
 - E. Name of Contractor and Approval Date
 - F. Reference to Specification Section, Paragraph and/or Drawing.
 - G. The location of the work covered by the shop drawing.
 - H. Any qualification, deviation or departure from Contract.
 - I. Any additional information required by the Specifications for the particular material being furnished.
- 1.1.3 Each shop drawing shall be numbered. The same numbering system shall be retained through all revisions. Each drawing shall have a clear space for the approval stamps of Contractor and Consultant.
- 1.1.4 In submitting shop drawings for approval, all associated shop drawings related to a complete assembly shall, be submitted at the same time so that each may be checked in relation to the entire assembly.
- 1.1.5 Contractor shall prepare composite shop drawings and installation layouts, when required, to depict proposed solutions for tight field conditions.
- 1.1.6 With respect to standard manufactured items, Contractor shall submit to Consultant manufacturer's illustrated cuts of the items to be furnished showing details, sizes and dimensions and all other pertinent information. Sufficient copies of cuts shall be furnished so that Consultant may maintain a minimum of 2 copies and return to Contractor the number required for Contractor's use.
- 1.1.7 Contractor shall submit a minimum of 4 copies of each drawing. Sufficient copies of shop drawings shall be furnished so that Consultant may maintain a minimum of 3 copies and return to contractor the number required for Contractor's use.
- 1.1.8 Submit shop drawings for the following details:
 - A. NVS Premix Lightweight Concrete
 - B. Sheet Metal Roof Opening Closure Pan

- C. Gravel Stop, Locking Cleat
- D. Retrofit Roof Drain
- E. Secondary Drainage Scuppers
- F. Plumbing Vent Flashing
- G. Roof Penetration Counterflashing
- H. Fascia Extender, Locking Cleat
- I. Coping Cap
- J. RedLINE Flat Expansion Joint
- K. Equipment Curb Counterflashing
- L. Weather-Tite Lockin' Interlocking Pitch Pocket System, Electrical Conduit Flashing
- M. Masonry Wall Flashing
- N. Metal Wall Panels
- O. Metal Wall Panel Closure, Insulation
- P. Masonry Wall Through Wall Flashing/Counterflashing
- Q. Hat Channel
- R. SBC Industries Lightning Flashing
- S. Penthouse Door Sill/Counterflashing

1.2 PRODUCT DATA

- 1.2.1 Submit a complete description of the roofing system listing all components and their respective manufacturer.
- 1.2.2 Submit a complete description of the NVS Premix lightweight concrete and Insulperm system listing all components and their respective manufacturer.
- 1.2.3 Submit each manufacturer's technical specifications and installation procedures for each major roofing component required.
- 1.2.4 Minimum required components include fasteners, base sheet, masonry expansion anchors, roof membrane, flashing material, edge metal, and sealant.
- 1.2.5 Submit three (3) copies of manufacturer's safety data sheet. Contractor's Superintendent or Foreman shall maintain copy of MSDS at job at all times. Copies shall be provided Owner's representative.

1.3 MANUFACTURER'S CERTIFICATES

- 1.3.1 Submit a letter from the membrane manufacturer acknowledging the NVS lightweight concrete system proposed for use and approval of the use of this system with his roofing materials.
- 1.3.2 Submit a copy of the contractor's licensed manufacturer's membrane applicator agreement.
- 1.3.3 Submit a copy of the contractor's licensed NVS lightweight concrete subcontractor applicator agreement.
- 1.3.4 Submit a copy of fluid-applied elastomeric roofing manufacturer's certification for applicator.

- 1.3.5 Submit a copy of fluid-applied elastomeric roofing manufacturer's five (5) year warranty.

1.4 SAMPLES

- 1.4.1 Submit two 6-inch long samples of each metal shape to be used on this Project to Consultant for approval. Metal shapes are to be constructed in accordance with approved shop drawings and will be used for establishment of quality standards during installation.

1.5 RELATED SECTIONS

- 1.5.1 Section 01300, Submittals.

PART 2 PRODUCTS

Not used.

PART 3 EXECUTION

Not Used.

END OF SECTION

SECTION 01400

QUALITY CONTROL

PART 1 GENERAL

1.1 QUALITY CONTROL - CONTRACTOR

- 1.1.1 Maintain quality control over products, services, site conditions, and workmanship, to produce work of specified quality.

1.2 QUALITY CONTROL - OWNER

- 1.2.1 The Owner reserves the right, at his discretion, to retain the services of an independent construction monitoring representative to provide full or periodic inspection of the roofing application. If Owner engages this service, the Contractor will be informed. Testing may be performed to determine any deficiencies in the roofing assembly.
- 1.2.2 Cuts may be made to determine the quantity and quality of material and workmanship using the following procedures:
 - 1.2.2.1 Cuts will be made after all roofing felts are in place, but will be done before final surfacing is accomplished.
 - 1.2.2.2 Cuts will be made across felts 4" x 40", at locations selected by Consultant.
 - 1.2.2.3 Not over one cut for each 20 squares will be made, except that a cut may be made in any separate, well defined area, regardless of size.
 - 1.2.2.4 Where possible, samples will be weighed and inspected at the site and replaced in openings.
 - 1.2.2.5 Felt weights will be assumed to be the minimum allowable by appropriate ASTM standard.
 - 1.2.2.6 Felt weights will be that provided by the manufacturer.
- 1.2.3 Perform all patching and repairing of lightweight vermiculite concrete using Zono-Patch or NVS Premix.
- 1.2.4 Work found in violation of the Specifications, or not in conformance with acceptable roofing practices/standards, shall be subject to rejection including complete removal and replacement with new materials at Contractor's expense.
- 1.2.5 NVS lightweight concrete subcontractor shall daily perform wet density test, minimum one per hour, of lightweight concrete placement.

- 1.2.6 Failure of Owner or Consultant to discover or reject defective work, or work not in accordance with the Contract, shall not be deemed an acceptance thereof, nor a waiver of Owner's rights to Contractor's compliance with the Contract or performance of the work, or any part thereof. No partial or final payment, or partial or entire occupancy, by Owner shall be deemed to be an acceptance of work or of material which is not strictly in accordance with the Contract, nor shall it be deemed a waiver by Owner or any of Owner's rights pursuant to this Contract or otherwise.

1.3 QUALITY CONTROL - MANUFACTURER

- 1.3.1 Selected membrane manufacturer shall be required to provide qualified personnel to observe field conditions, including suitability of surfaces at material installation at start and completion of field work. Manufacturer's representative shall submit written reports to the Consultant listing observations and recommendations. Roofing contractor shall be responsible for insuring site visits by membrane manufacturer's representative.
- 1.3.2 Copy of manufacturer's technical inspection reports shall be forwarded to Consultant within seven (7) days of inspection.

PART 2 PRODUCTS

Not Used.

PART 3 EXECUTION

Not Used.

END OF SECTION

SECTION 01500

TEMPORARY FACILITIES AND CONTROLS

PART 1 GENERAL

1.1 DESCRIPTION

- 1.1.1 Contractor shall provide for temporary facilities and controls required for the performance of the project except as otherwise noted. Such items include, but are not necessarily limited to, utilities such as heat, water, electricity and telephone; sanitary facilities; contractor's facilities; and enclosures such as tarpaulins, barricades, and canopies.
- 1.1.2 All equipment furnished by Contractor shall comply with all pertinent safety requirements.
- 1.1.3 Ladders, planks, hoists, and all similar items furnished by individual trades in the execution of their own portions of the work are not part of this section.
- 1.1.4 All temporary facilities will be subject to the Owner's approval.

1.2 PRODUCT HANDLING

- 1.2.1 Contractor shall exercise all means necessary to maintain temporary facilities and controls in proper and safe condition throughout the progress of the project.
- 1.2.2 All required connections to existing utility systems shall be made with minimum disruption. If disruption of existing service is required, notice shall be given to the Owner and connections shall not be made without Owner's approval. If necessary, Contractor shall provide for alternate temporary service.

PART 2 PRODUCTS

2.1 TEMPORARY UTILITIES

- 2.1.1 Electricity: Owner will not furnish electricity to the Contractor during this project.
- 2.1.2 Heating: The Contractor shall provide and maintain all heat needed for proper conduct of all operations included in the work.
- 2.1.3 Water: The Contractor will be provided water to the extent of the existing sources. The Contractor shall be responsible for any taps or connections that may be needed or desired by him. He is also responsible for getting the service to any location where needed or desired.
- 2.1.4 Connects and Disconnects: In the event it is necessary to disconnect any electrical wiring or connections, plumbing lines or other building services, notify the Owner to provide sufficient advance time to minimize disruption of service.

Contractor shall not disconnect or connect services unless authorized in writing by Owner. Contractor shall comply with electrical specifications. Contractor is responsible for all disconnects and connections.

2.2 TEMPORARY FACILITIES

- 2.2.1 Field Office: The Contractor may provide his own Field Office. The location is subject to the approval of the Owner.
- 2.2.2 Sanitary Facilities: The Contractor shall provide and maintain proper temporary sanitary facilities, including but not limited to portable toilets, in the quantity required for use of all personnel. All facilities shall be maintained in a sanitary condition at all times. Location shall be approved by Owner.
- 2.2.3 Ventilated Storage Facilities: Provide, as required, facilities to maintain specific storage conditions as described within this Specification and as recommended by the materials' manufacturers for use in construction.
- 2.2.4 Contractor shall provide temporary chain link fence to enclose asphalt kettle, LP storage tank. Height of enclosure shall be 5 feet minimum. After daily operation, all ports and openings in the kettle shall be locked. LP gas storage tank valves shall be locked after daily operation. Kettle shall be equipped with the safety loading feature and after burner to reduce the odor of asphalt on the grounds of the school.
- 2.2.5 Contractor shall erect a fence barrier including overhead fall protection constructed partially of fabric at the main entrance to the Law Center from Green Street

2.3 CONSTRUCTION AIDS

- 2.3.1 Enclosures: The Contractor shall furnish, install and maintain for the duration of the project, all scaffolds, ladders, tarpaulins, fencing, barricades, warning signs, platforms, bridges, canopies, steps, and other temporary construction required to properly facilitate completion of the project in compliance with all safety and other regulations. The Contractor shall provide all necessary safeguards to warn and prevent pedestrians and Owner's personnel from being exposed to dangers or hazards created by this project.

Contractor shall erect scaffold stair to provide access to roof for contractor personnel and subcontractors. Stair shall be erected to conform to all OSHA safety regulations.

The kettle area will be enclosed in a fence at all times. After daily operation, all ports and openings in the kettle will be locked. The LP gas tank valve shall be locked.

- 2.3.2 Disposal Chute: Will not be permitted on this project.
- 2.3.3 All materials, roofing debris and all contractors equipment shall be hoisted by contractor crane or boom truck.

- 2.3.4 Signs: No signs or advertising of any kind shall be allowed on the project site unless approved in advance by Owner.
- 2.3.5 Roof Access: The Contractor shall provide equipment for access to the roof.
- 2.3.6 Contractor shall erect temporary concrete traffic barriers on Devine Street, Main Street, Assembly Street to define contractor storage, laydown and parking areas. Contractor shall coordinate this area with City of Columbia Police Department.
- 2.3.7 Coordination and expense shall be bore by the Contractor to negotiate with the City of Columbia, Street Division for street/lane closure and bagging of parking meters.
- 2.3.7 Parking: Contractor's construction vehicles shall enter the project site and park in areas as directed by the Owner. The Contractor shall be responsible for coordination of traffic by his subcontractors, suppliers, etc., so as not to disrupt ongoing operations of the Owner.
- 2.3.8 Contractor shall provide suitable storage facilities, trailers which shall have temporary heat to protect roofing materials. Roofing materials shall be stored in watertight trailers. Temporary protection with tarps is not permitted.
- 2.3.9 Ladders: The Contractor shall remove all ladders from the roof and site at the end of work each day. Ladders may be stored in locked storage trailer.
- 2.3.10 Fire Extinguishers: Contractor shall provide adequate sized fire extinguisher for coal tar pitch and asphalt kettle area. A minimum of one additional fire extinguisher shall be located on roof adjacent to work area.

PART 2 PRODUCTS

Not Used.

PART 3 EXECUTION

Not Used.

END OF SECTION

SECTION 01560

CONSTRUCTION CLEANING

PART 1 GENERAL

1.1 SECTION INCLUDES

- 1.1.1 Scrap, debris, waste material, and other items from all operations shall not be allowed to accumulate on the Project site. Debris shall be removed and properly disposed of daily in accordance with all Federal, State and Local regulations.
- 1.1.2 The buildings and site shall be maintained in a clean condition throughout the duration of the Project. Contractor shall comply with all requirements for cleanliness described in other sections of these Specifications.

PART 2 PRODUCTS

2.1 MATERIALS AND EQUIPMENT

- 2.1.1 Contractor shall provide all required manpower, material and equipment to maintain the specified standard of cleanliness.
- 2.1.2 Contractor shall use only those materials and equipment which are compatible with the surface being cleaned as recommended by the manufacturer or approved by the Architect.

PART 3 EXECUTION

3.1 PROGRESS CLEANING

- 3.1.1 Contractor shall inspect roof drainage system and ensure all drains are open and free flowing.
- 3.1.2 Contractor shall conduct daily inspections to ensure that the requirements for cleanliness are being met. Roof surface and grounds in work area shall be cleaned before close of work each day.
- 3.1.3 Contractor shall provide storage containers for all items awaiting removal from the site. Storage containers shall be approved by the Consultant.

3.2 STORED MATERIALS

- 3.2.1 Stored items shall be kept in an orderly arrangement allowing maximum access and shall not impede drainage or traffic.
- 3.2.2 Contractor shall inspect all arrangements of materials stored on the Project site on a minimum weekly basis and shall service all arrangements in accordance with the requirements of this Section.

- 3.2.3 Contractor is responsible to return grounds to pre-roof construction condition.
- 3.2.4 All grassed areas, planted shrubbery, trees, fencing, sidewalks, ground ornaments, statuary shall be protected.

END OF SECTION

SECTION 01610

STORAGE AND PROTECTION

PART 1 GENERAL

1.1 FACILITY PROTECTION

- 1.1.1 Limit size of work sections to safeguard adjacent materials, structures, etc., and to minimize dust and noise.
- 1.1.2 Protect existing facilities from damage during work. Do not overload existing paving, curbs, sidewalks, etc. with vehicle traffic. Do not overload new or existing construction with demolition debris, equipment, etc.
- 1.1.3 Protect existing facilities from fire as a result of re-roofing operations. Contractor shall provide suitable and adequate fire extinguishers conveniently located on the roof at staging areas, storage areas and at areas or equipment where an open flame is being used. Competent operators shall be in attendance at all times and shall be properly trained or instructed in fire protection.
- 1.1.4 Plywood, minimum 3/4 inch thick, or other suitable materials shall be used to protect roof areas from damage that may be caused by concentrated equipment loads and foot traffic.
- 1.1.5 Roof traffic shall be confined to work areas. Contractor shall be responsible for leaks that develop in traffic areas during and after Project completion.
- 1.1.6 Contractor shall protect interior operations from adverse weather during roofing operations.
- 1.1.7 The Contractor is responsible and shall be held liable for any damages to the building, building contents, its occupancy, grounds or landscaping resulting from work under the Contract. In the event of damage, Contractor will restore property to a condition equivalent to that at the time the Project started.
- 1.1.8 The Contractor shall keep existing drainage facilities clear of debris during construction.

1.2 MATERIAL PROTECTION

- 1.2.1 Products shall be transported by methods which avoid damage. Damaged material shall be subject to rejection by the Consultant.
- 1.2.2 Store materials on trailers, covered trailers or trailers with materials covered tarps. Factory applied wrappings or polyethylene covers **are not acceptable**.
- 1.2.3 Wet materials shall be removed from the Project site.

- 1.2.4 All roofing felts, membranes, flashing materials shall be stored in a closed storage trailer.

1.3 STORAGE

- 1.3.1 Contractor shall be responsible for proper storage of equipment, materials and devices furnished by himself and/or his subcontractors and suppliers. Heated storage facilities shall be provided for critical temperature roofing materials.
- 1.3.2 All storage areas are subject to approval by the Owner or his authorized representative.

PART 2 PRODUCTS

Not Used.

PART 3 EXECUTION

- 3.1 Plywood walkway shall be placed on surface of roof deck, roof membrane to protect vermiculite concrete roof deck from damage. All wheeled traffic lanes for equipment shall travel over plywood surface **(NO EXCEPTIONS)**.
- 3.2 Plywood shall be utilized for wheeled buggies during removal of roof debris to protect completed roof membrane and lightweight concrete roof deck.

END OF SECTION

SECTION 01700

CONTRACT CLOSEOUT

PART 1 GENERAL

1.1 FINAL CLEANING

- 1.1.1 Except as specifically provided otherwise, "clean" shall be interpreted as meaning the level of cleanliness generally attainable by skilled cleaners using commercially available building maintenance equipment and materials.
- 1.1.2 Execute cleaning prior to final inspection.
- 1.1.3 Unless otherwise directed by the Consultant, the Contractor shall clean all adjacent areas on the site and completely remove all resultant debris.
- 1.1.4 Clean all roof areas and drainage systems. Clean interior and exterior surfaces exposed to view; remove stains and foreign substances. Such work shall be accomplished at no additional cost to the Owner.
- 1.1.5 Remove scaffold stairs. Repair all fasteners for anchors and repair surface.
- 1.1.6 Clean HVAC equipment, exhaust fans, masonry, precast concrete as required.
- 1.1.7 Clean site; sweep paved areas, rake clean other areas.
- 1.1.8 All tools, equipment, construction materials, scrap, debris, and waste shall be removed from the project site.
- 1.1.9 Restore grass areas by filling ruts, compacting soil, raking, seeding, and fertilizing. Heavily damaged areas shall be leveled, compacted and covered with matching sod. Replace any damaged sidewalks or pavement.
- 1.1.10 Remove portable sanitary facilities from site. Clean and disinfect area as necessary to ensure sanitary health conditions.
- 1.1.11 Owner's decision shall be final for any questionable repairs.

1.2 FINAL INSPECTION

- 1.2.1 Consultant's representative will conduct a final inspection with Owner's representative, the Contractor's representative, and the membrane manufacturer's representative.
- 1.2.2 Consultant will issue a final acceptance certificate.
- 1.2.3 The results of inspections conducted by these parties, including materials manufacturer, shall be submitted by Consultant to Owner in writing.

1.3 PROJECT RECORD DOCUMENTS

- 1.3.1 Contractor shall submit 4 copies of "as-built" documents to Consultant with letter of transmittal indicating date, project title, Contractor's name and address, list of documents, and signature of Contractor.

1.4 WARRANTIES AND BONDS

- 1.4.1 Refer to Section 1740, Warranties and Bonds, for requirements.
- 1.4.2 Final payment will be made to the Contractor only after 2 copies of the warranties and guarantees have been submitted and the roofing system manufacturer acknowledges that all bills are paid. All such documents shall show the project name and location and Owner's name.

1.5 CLOSE-OUT FORMS

- 1.5.1 Final payment will be made to the Contractor only after the following forms have been submitted.
 - 1.5.1.1 Certificate of Substantial Completion, AIA G704.
 - 1.5.1.2 Release or Waivers of Liens from subcontractors and suppliers.
 - 1.5.1.3 Consent of Surety to Final Payment, AIA G707.
 - 1.5.1.4 Contractor's Affidavit of Payment of Debts and Claims, AIA G706.
 - 1.5.1.5 Contractor's Affidavit of Release of Liens, AIA G706A.
 - 1.5.1.6 Contractor's Release or Waiver of Liens Conditional Upon Receipt of Final Payment on Contractor's letterhead (Form attached).
 - 1.5.1.7 "No Asbestos" Certification (Statement on Contractor's letterhead that no asbestos containing materials were used in the completion of the Work.)
 - 1.5.1.8 Maintenance Manual for installed roofing system.
 - 1.5.1.9 Manufacturer inspection reports.
 - 1.5.1.10 Redline drawings showing "as-built" conditions.

PART 2 PRODUCTS

Not Used.

PART 3 EXECUTION

Not Used.

**PARTIAL WAIVER AND RELEASE OF LIEN
(ON CONTRACTOR'S LETTERHEAD)**

The undersigned hereby acknowledges receipt of \$_____ paid by _____ on account of labor performance and materials furnished for the improvement of the following premises: CRF DM Law Center at University of South Carolina.

In consideration of that payment the undersigned hereby releases, waives and relinquishes his/its lien rights, claims or rights of lien against those premises and any surety bonds in favor of the Owner and all other persons, firms, partnerships or corporations.

The undersigned warrants that it/he has the right to execute this partial waiver and release. It/He warrants further that all laborers employed by the undersigned and all materials and supplies furnished by others to him/it in connection with construction of the improvements on the above described premises have been fully paid and that no security agreement has been executed by him/it covering any part of the improvements of the premises.

The undersigned does not hereby release or waive any lien, rights or claims which he/it may acquire for labor performed or materials furnished after the date of this instrument.

Signed and sealed this _____ day of _____, 20 ____.

WITNESS:

Company/Corporation

BY: _____

TITLE: _____

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

Notary Public

My Commission Expires: _____

END OF SECTION

SECTION 01740

WARRANTIES AND BONDS

PART 1 GENERAL

1.1 SECTION INCLUDES

- 1.1.1 Upon completion of the work and prior to the final payment, the Contractor shall submit the following items to the Consultant.
 - A. Copies of all manufacturers' punch lists and documentation of completion.
 - B. Copies of all punch lists prepared by the Consultant and documentation of completion.
 - C. Manufacturer's statement that the project has been inspected by the manufacturers authorized representative and is suitable for warranty.
 - D. Manufacturer's special labor and material warranty to Owner.
 - E. Contractor's warranty to Owner.
 - F. Manufacturer's fluid-applied elastomeric roofing system warranty.

1.2 RELATED SECTION

- 1.2.1 Submit all items required by this Section as part of Contract Closeout, Section 01700.

1.3 WARRANTIES AND BONDS

- 1.3.1 Comply with the General Conditions of the Contract concerning warranties and bonds. The Contractor shall agree that the work covered under this Contract shall remain free from any water penetration and physical defects caused by defective workmanship or materials for a period of two (2) years from the date of final acceptance by Owner.
- 1.3.2 Emergency repairs to defects and leaks shall be performed within two working days of receiving notice from Owner. As soon as weather permits, permanent repairs and restoration of affected areas shall be accomplished in a manner in conformance with the original Contract requirements. This work shall be done without additional cost to the Owner, except if it is determined that such leaks and defects were caused by abuse, lightning, hurricane, tornado, hail storm, or other unusual phenomena.
- 1.3.3 In addition, the Contractor and Owner's representative shall conduct an inspection approximately 30 days prior to the end of the Contractor's warranty to determine the present physical condition of the roofing system. The Owner's representative shall then submit a written report as to the findings of this inspection. The Roofing Contractor, at his own expense, shall repair any defects covered under the scope of this contract.
- 1.3.4 The warranties shall also state that the Owner has the right, at any time during the two (2) year Contractor's warranty period and the Manufacturer's warranty period, to make emergency repairs to protect the contents of the building or the building itself from damage due to leaking. The cost of emergency repairs made during the

itself from damage due to leaking. The cost of emergency repairs made during the first two years of the warranty period shall be borne by the Contractor and action by the Owner shall not invalidate the warranty.

- 1.3.5 Upon completion of the roof installation work, and before final payment, Contractor shall furnish Owner a ROOFING SYSTEM GUARANTEE with flashing endorsement covering all workmanship and materials issued by the roofing materials manufacturer for a period of Twenty (20) Years from date of acceptance by Owner. Warranty shall include No Dollar Limit (NDL) or No Penal Sum language to describe coverage. All roofing materials and insulation shall be included in warranty endorsement. The Contractor's warranty shall neither replace nor negate any agreement furnished by the manufacturer.
- 1.3.6 Upon completion of the installation of the fluid-applied elastomeric roofing system, and before final payment, Contractor shall furnish Owner a Five (5) Year Limited System Warranty issued by the manufacturer. The Agreement shall cover all labor and materials for a period of five (5) years from date of acceptance by Owner.
- 1.3.7 Starting dates of all warranties shall be the date of the final inspection and Owner acceptance.

PART 2 PRODUCTS

Not Used.

PART 3 EXECUTION

Not Used.

**(CONTRACTOR'S LETTERHEAD)
TWO YEAR WARRANTY**

Known all men by these presents, that we, (Contractor), having installed water repellant treatment to masonry and concrete surfaces and complete installation of new sealants to provide a positive barrier against passage of air and passage of moisture and having accomplished certain other work on the selected masonry walls **Roof Replacement for CRF DM Law Center, (State Project No. H27-6094-F)** under contract between **University of South Carolina** and (Contractor), warrant to **University of South Carolina** with respect to said work that for a period of two years from date of final acceptance of said work, the waterproofing system including sealants, shall be absolutely watertight and free from all leaks, provided however that the following are excluded from this warranty:

- a. Defects or failures resulting from abuse by the Owner.
- b. Defects in design involving failure of (1) structural frame; (2) load-bearing walls; and (3) foundations.
- c. Damage caused by fire, tornado, hurricane, wars, riots, or civil commotion.

We, (Contractor), agree that should any leaks occur in the building envelope, we will promptly remedy said leaks in a manner to restore the building envelope to a watertight condition by methods compatible to the system and acceptable under industry standards and general practice.

We, (Contractor), further agree that for a period of two years from date of final acceptance referred to above, we will make repairs at no expense to the Owner, to any defects which may develop in the work including, but not limited to, loose mortar, cracks in joints, shrinkage, voids or blisters in sealant, loss of bond, absence of water repellant in a manner compatible to the system and acceptable under industry standards and general practice.

We, (Contractor), also agree that the Owner has the right, at any time during the two-year warranty period, to make emergency repairs to protect the contents of the building or the building itself from damage due to leaking. The cost of emergency repairs made during the first two years of the warranty period shall be borne by the Contractor and action by the Owner shall not invalidate the warranty.

IN WITNESS WHEREOF, we have caused this instrument to be duly executed, this _____ day of _____, 20 _____.

CONTRACTOR:

WITNESS:

by _____
President (Owner)

Notary Public

END OF SECTION

DIVISION 2

SITEWORK

SECTION 02070

SELECTIVE DEMOLITION

PART 1 GENERAL

1.1 WORK INCLUDED

- 1.1.1 Electrical disconnects mounted to equipment screen frame shall be removed and disposed of by roofing contractor.
- 1.1.2 Remove and dispose of existing pitch pans and flashing for equipment screen supports.
- 1.1.3 Contractor shall remove loose debris and fill roof deck with NVS Premix flush with surrounding deck surface.
- 1.1.4 Remove and dispose of existing gravel surface asphalt built up roof.
- 1.1.5 Remove and dispose of existing base sheet and rosin sized sheathing paper.
- 1.1.6 Remove and dispose of existing sheet metal flashing.
- 1.1.7 Remove and dispose of out of service roof penetrations, curbs and antenna.
- 1.1.8 Remove and dispose of damaged or deteriorated lightweight vermiculite concrete roof deck and replace with new lightweight NVS Premix concrete deck to match existing. (Unit Price)
- 1.1.9 Remove and dispose of damaged or deteriorated surface of lightweight vermiculite concrete roof deck and replace with $\pm \frac{1}{4}$ inch to $\frac{3}{8}$ inch Zono Patch or NVS Premix to match existing. (Unit Price)
- 1.1.10 Remove and dispose of damaged or deteriorated wood blocking, nailers and replace with new treated wood blocking, nailers to match existing (Unit Price)
- 1.1.11 Remove and dispose of damaged or deteriorated galvanized steel form deck, and replace with new ± 1 " galvanized steel form deck to match existing. (Unit Price)
- 1.1.12 Remove and dispose of existing membrane flashing.
- 1.1.13 Remove and dispose of curb flashing.
- 1.1.14 Remove and dispose of existing sheet metal counterflashing.
- 1.1.15 Remove and dispose of existing sheet metal coping cap on masonry parapet walls (Area D).
- 1.1.16 Remove and dispose of existing plumbing vent pipe flashing.
- 1.1.17 Remove and dispose of existing roof drain strainers.
- 1.1.18 Remove and dispose of existing roof drain flashing.

1.2 RELATED WORK

1.2.1 Storage and Protection - Section 01620.

1.2.2 Rough Carpentry - Section 06100.

1.3 PROTECTION

1.3.1 Limit size of work sections to safeguard adjacent materials, structures, etc. and to minimize dust, noise and water damage.

1.3.2 Protect existing facilities from damage during work. Do not overload existing paving, curbs, sidewalks, etc. with vehicle traffic. Do not overload existing construction with demolition debris, equipment, etc.

1.3.3 Coordinate all demolition with Owner.

1.3.4 Removal and disposal of construction debris shall be accomplished by crane, boom truck or other external lifting equipment. All debris shall be discharged into dump trucks or dumpsters and removed from site daily.

1.3.5 Damage shall be repaired at Contractor's expense in accordance with General Conditions.

1.3.6 Demolition shall be performed by personnel familiar with the replacement of materials being removed.

1.3.7 Contractor shall supervise closely demolition phase of BUR removal from lightweight insulating concrete roof deck. **Saw cuts into surface of deck with depth of 3/16 inch or more are not allowed.**

1.3.8 **Excessive demolition**, as determined by the Owner's representative, shall be replaced with similar and equal materials at Contractor's expense in accordance with General Conditions.

1.3.9 Contractor shall furnish necessary temporary protection from weather at all areas of demolition to protect interior of building from elements of weather at all times. Install specified roof system prior to darkness and tie in existing roof system as needed to make roof water tight daily.

1.3.10 Contractor shall maintain safety precautions during performance of work in accordance with General Conditions.

1.3.11 No demolition shall be performed if the chance of precipitation is imminent, as reported by nearest office of the National Weather Service: daily weather log to be kept by Contractor.

1.3.12 Contractor shall inspect all roof drains and insure free-flowing condition at all times. Roof drainage system shall be inspected at close of work each day to ensure free-flowing condition.

PART 2 PRODUCTS

2.1 MATERIALS

- 2.1.1 Except where noted otherwise, materials being demolished become the property of the Contractor. Remove debris in such a manner as to not accumulate on the roof. Demolition debris shall be legally disposed of by Contractor.

PART 3 EXECUTION

3.1 DEMOLITION

- 3.1.1 The Owner's representative and the Contractor shall document the actual quantities removed for materials bid on a unit price basis.
- 3.1.2 Remove only as much material as can be totally replaced in one day. Water cutoffs are to be installed daily where existing and new roof membranes abut to ensure watertight integrity of new system.
- 3.1.3 Construction demolition debris and waste materials shall be placed in storage container and covered with secured tarpaulin to prevent dispersal on site by wind. Storage container shall be replaced when full to minimize potential grounds contamination.

END OF SECTION

SECTION 02080

ASBESTOS REMOVAL

PART I GENERAL

1.0 SUMMARY

This Section requires removal and disposal, off site, of the following: asbestos-containing materials in the bituminous flashing membrane.

Roof membrane and flashing membrane specimens tested positive for asbestos-containing materials, requiring removal and disposal in hazardous waste disposal facility.

The asbestos containing materials (ACM) indicated above are non-friable. It is the intent of these specifications to identify the removal and disposal of ACM on this project as non-friable. The Contractor should exercise caution during the removal and disposal of ACM. The Contractor shall be responsible during the removal and disposal of ACM to insure compliance with State and Federal asbestos abatement regulations.

The Owner will not be conducting daily air monitoring.

APPLICABLE PUBLICATIONS:

The publications listed below form a part of this specification to the extent referenced. The publications are referred to in the text by the basic designation only.

Code of Federal Regulations (CFR):

29 CFR 1910-134	Respiratory Protection
29 CFR 1910-145	Specifications for Accident Prevention Signs and Tags
29 CFR 1926.58	Asbestos, Tremolite, Anthophyllite, and Actinolite
40 CFR 61, Subpart A	General Provisions
40 CFR 61, Subpart M	National Emission Standard for Asbestos
40 CFR 763	Asbestos Containing Materials in Schools

American National Standards Institute (ANSI) Publications:

Z9.2-79	Fundamentals Governing the Design and Operation of Local Exhaust Systems
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Z88.2-80 Practice for Respiratory Protection

American Society for Testing and Materials (ASTM) Publications:

D 1331-56 Surface and Interfacial Tension of
(R80) Solutions of Surface-Active Agents

Underwriters Laboratories Inc. (UL) Publication:

586-85 High-Efficiency, Particulate, Air Filter Units

SUBMITTALS:

General: Submit the following in accordance with the conditions of Contract and Division I specification sections.

Prior to commencing work involving asbestos materials the following must be submitted by the contractor and approved by the Owner's representative.

ASBESTOS PLAN:

Submit a detailed job-specific plan of the work procedures to be used in the removal and demolition of materials containing asbestos. Such plan shall include a sketch showing the location, size, and details of asbestos control areas, regulated areas, and the location and details of the decontamination systems. The plan shall also include interface of trades involved in the construction, sequencing of asbestos-related work, disposal plan, type of wetting agent to be used, solvents, lockdown encapsulant, air sampling protocols, respirators, protective equipment, and a detailed description of the method to be employed in order to control pollution i.e. procedures, engineering controls, special equipment, etc. The plan shall be approved by the Owner's representative prior to the start of asbestos work. Prior to beginning work, the Contractor shall meet with the Owner's representative to discuss in detail the asbestos plan, including work procedures and safety precautions.

CERTIFICATES AND PERMITS:

- a. Required Notifications (DHEC)
- b. HEPA filter conformance
- c. Respirators
- d. Landfill

MANUFACTURERS DATA:

- a. Vacuum Equipment
- b. Respirators
- c. Solvents
- d. Wetting Agent (Surfactant)
- e. Water Filtration
- f. Hoist System
- g. Disposal Bags
- h. Penetrating Sealant

PROPOSED SCHEDULE:

Submit schedule for asbestos removal to Owner's representative a minimum of 10 days prior to start up.

TRAINING:

Submit documentation that the required training has been conducted. Submit appropriate State licenses, fit testing certificates, and training certificates.

RESPIRATOR PROGRAM:

Submit respirator program per ANSI 288.2, 29 CFR 1910.134 and 29 CFR 1926.58.

Upon completion and during work submit:

Required information on any workers not previously submitted before they are assigned to the site and involved in removal work,

A copy of the daily log signed by the head foreman showing the following data: date, entering and leaving time, description of work done, and reports of events,

Sign-in sheet, a record of all employees and visitors who enter the asbestos control area,

Landfill receipts and transport manifests,

Final Work Area Inspection form (see end of section for form),

Copies of employee air monitoring results relative to OSHA respiratory protection level compliance.

COMPETENT PERSON:

Submit the name and qualifications of the designated competent person.

DEFINITIONS

Amended Water: Water containing a wetting agent or surfactant.

Area Monitoring: Sampling of asbestos fiber concentrations within the asbestos control area and outside the asbestos control area which is representative of the airborne concentrations of asbestos fibers which may reach the breathing zone of personnel potentially exposed to asbestos.

Asbestos: A group of naturally occurring minerals that separate into fibers. There are six asbestos minerals used commercially: chrysotile, amosite, crocidolite, tremolite, anthophyllite, and actinolite.

Asbestos Control Area: An area where asbestos removal operations are performed which is isolated by physical boundaries to prevent unauthorized entry of personnel and to prevent the spread of asbestos dust, fibers, or debris.

Asbestos Permissible Exposure Limit: The limit is 0.2 fibers (longer than 5 micrometers) per cubic centimeter of air as an 8-hour time weighted average as determined by Appendix A of 29 CFR 1926.58.

Competent Person: One who is capable of identifying existing asbestos, tremolite, anthophyllite, or actinolite hazards in the workplace and who has the authority to take prompt corrective measures to eliminate them.

Decontamination Enclosure System: A series of connected rooms, with airlocks/curtained doorways between any two adjacent rooms, for the decontamination of workers or of materials and equipment. Decontamination systems shall be contiguous and adjacent to the enclosed asbestos control area.

Equipment Decontamination Enclosure System: A decontamination system for waste materials and equipment, typically consisting of a designated area of the work area, a washroom, and a holding area with airlocks/curtained doorways between any two adjacent rooms. Not to be used for personnel entry/exit.

Friable Asbestos Material: Material that contains more than one percent asbestos by weight which can be crumbled, pulverized, or reduced to powder by hand pressure when dry. Friable asbestos material is considered hazardous during removal and disposal procedures.

HEPA Vacuum Equipment: High efficiency particulate air (HEPA) filtered vacuuming equipment with a UL 586 filter system capable of collecting and retaining asbestos fibers. Filters shall be of 99.97 percent efficiency for retaining fibers of 0.3 micrometers or larger.

Lockdown: Lockdown is the procedure of applying a protective coating or sealant to a surface from which asbestos-containing material has been removed. Its primary function is to control and minimize airborne asbestos fiber generation that might result from any asbestos-containing residue on the substrate.

Non-friable Asbestos Material: Material that contains asbestos in which the fibers have been locked in by a bonding agent, coating, binder, or other material so that the asbestos is well bound and may not release fibers in excess of the asbestos permissible exposure limit during any appropriate use, handling, storing, transporting, or processing. Non-friable asbestos material may be hazardous during removal and disposal procedures.

Personnel Decontamination Enclosure System: A decontamination system for personnel, consisting typically of a clean room, a shower room, and an equipment room (dirty change room) with airlocks/curtained doorways between any two adjacent rooms.

Personal Monitoring: Sampling of asbestos fiber concentrations within the breathing zone of an employee to determine the 8-hour time weighted average in accordance with Appendix a of 29 CFR 1926.58. The samples shall be representative of the employee's work tasks. The breathing zone shall be considered an area within 12 inches of the nose or mouth of an employee.

Removal Encapsulant: A manufactured asbestos penetrating encapsulant designed specifically for asbestos removal.

Surfactant (Wetting Agent): A chemical wetting agent added to water to improve penetration. The surfactant shall be a 50/50 mixture of polyoxyethylene ether and polyoxyethylene ester, or equivalent, mixed in a proportion of one fluid ounce to 5 gallons of water or as specified by the manufacturer. An equivalent surfactant shall be understood to mean a material with a surface tension of 29 dynes/cm as tested in accordance with ASTM D 1331.

Time Weighted Average (TWA): The TWA is an 8-hour time weighted average of airborne concentration of fibers (longer than 5 micro-meters) per cubic centimeter of air which represents the employee's 8-hour workday as determined by Appendix A of 29 CFR 1926.58.

Regulated Area: An area established to demarcate areas where air-borne concentrations of asbestos, tremolite, anthophyllite, actinolite, or a combination of these minerals exceed or can reasonably be expected to exceed the permissible exposure limits. The regulated area may take the form of an enclosed control area or an area demarcated that minimizes the number of personnel who may be exposed to asbestos, tremolite, anthophyllite, or actinolite.

DESCRIPTION OF WORK:

The work covered by this section includes the handling of materials containing asbestos which are encountered during removal and demolition operations and the incidental procedures and equipment required to protect workers and occupants of the building or area, or both, from contact with airborne asbestos fibers. The work also includes the disposal of the removed asbestos-containing materials. Perform work in accordance with 29 CFR 1926.58, 40 CFR 61, Subparts A and M, and the requirements specified herein. The asbestos work involves the demolition and removal of asbestos-containing roofing materials. Under normal conditions non-friable materials are not considered hazardous; however, these materials release airborne asbestos fibers when sawed, broken, drilled, sanded, crushed, ground or otherwise abraded.

Protection of Existing Work to Remain: Perform demolition work without damage or contamination of adjacent areas. Where such work is damaged or contaminated, restore work to original condition or better.

Medical Requirements: 29 CFR 1926.58.

Medical Examinations: Before exposure to airborne asbestos fibers, furnish asbestos workers with a comprehensive medical examination as required by 29 CFR 1926.58.

Training: Prior to or at time of initial assignment to asbestos work, and at least annually thereafter, each employee shall be instructed with regard to the hazards of asbestos, safety and health precautions, the use and requirements for protective clothing, equipment, and respirators, and the association of cigarette smoking and asbestos-related disease, and the additional requirements of 29 CFR 1926.58. Fully cover engineering and other hazard control techniques and procedures.

Permits and Notifications: Obtain necessary permits in conjunction with asbestos removal, hauling, and disposition, and furnish timely notification of such actions required by federal, state, regional, and local authorities. Notify the regional office of the Environmental Protection Agency (EPA) and the Owner's Representative in writing 10 days prior to the commencement of work in accordance with 40 CFR 61, Subpart M.

Safety and Health Compliance: In addition to detailed requirements of this specification, comply with laws, ordinances, rules, and regulations of federal, state, regional, and local authorities regarding handling, storing, transporting, and disposing of asbestos waste materials. Comply with the applicable requirements of the current issue of 29 CFR 1926.58 and 40 CFR 61, Subparts A and M. Submit matters of interpretation of standards to the appropriate administrative agency for resolution before starting work. Where specification requirements and referenced documents vary, the most stringent requirement shall apply.

Respirator Program: Establish and implement a respirator program as required by ANSI Z88.2, 29 CFR 1910.134, and 29 CFR 1926.58.

PART 2 PRODUCTS

2.1 MATERIALS

Wetting Materials: For wetting prior to disturbance of asbestos containing materials use amended water:

Amended Water: Provide water to which a surfactant has been added. Use a mixture of surfactant and water which results in wetting of the asbestos containing material and retardation of fiber release during disturbance of the material equal to or greater than that provided by the use of one ounce of a surfactant consisting of 50 percent polyoxyethylene ester and 50 percent polyoxyethylene ether mixed with five gallons of water.

Polyethylene Sheet: A single polyethylene film in the largest sheet size possible to minimize seams, six mil thick as indicated, clear, frosted, or black as indicated.

Duct Tape: Provide duct tape in 2 inches or 3 inches widths, with adhesive which is formulated to aggressively stick to sheet polyethylene.

Spray Cement: Provide spray adhesive in aerosol cans which is specifically formulated to stick tenaciously to sheet polyethylene.

Disposal Bags and Impermeable Containers: Provide 6 mil thick leak-tight polyethylene bags. Provide containers suitable to receive and retain asbestos containing or contaminated material until proper disposal. Use one of two types of impermeable containers: (1) 6 mil polyethylene disposal bags to fit within the drum; or (2) metal or fiber reinforced drums with tightly fitting lids. Disposal bags and impermeable containers must be labeled with 2 labels, with text as follows:

First Label: Provide in accordance with 29 CFR 1910.1200(f) of OSHA's Hazard Communication standard:

DANGER
CONTAINS ASBESTOS FIBERS
AVOID CREATING DUST
CANCER AND LUNG DISEASE HAZARD
BREATHING AIRBORNE ASBESTOS, TREMOLITE, ANTHOPHYLLITE, OR
ACTINOLITE FIBERS IS HAZARDOUS TO YOUR HEALTH

Second Label: Provided in accordance with DOT regulations:

RQ HAZARDOUS SUBSTANCE SOLID,
N.O.S. (ASBESTOS) ORM/E,
NA - 9188

Disposal Drums: Provide labeled leak tight containers (fiberboard or steel drums) for transportation and disposal of waste. Disposal drums must be labeled in the same manner as specified under "Disposal bags" (see above).

PART 3 EXECUTION

3.1 WORK PROCEDURE

Perform asbestos-related work in accordance with 29 CFR 1926.58, SCDHEC reg. 61-86.1 and as specified herein. Use wet removal procedures. Personnel shall wear and use protective clothing and equipment only as required. Eating, smoking, or drinking shall not be permitted in the asbestos control area or change room. Personnel of other trades not engaged in the removal and demolition of asbestos shall not be exposed at any time to airborne concentrations of asbestos greater than or equal to .01 fibers per cubic centimeter of air. Shut down, lock out, and isolate HVAC systems that supply, exhaust, or pass through the asbestos control areas. Seal intake and exhaust vents in the asbestos control area with 6-mil plastic sheet and tape. Seal seams in HVAC components that pass through asbestos control area.

Disconnect electrical service when wet removal is performed and provide temporary electrical service protected by a ground fault circuit interrupter.

Masking and Sealing:

Asbestos Control Area Requirements for non-friable roofing materials: The construction of an enclosed asbestos control area may not be required for the removal of roofing felts and mastics if proper removal techniques are utilized. Secure all entrances to the work area and maintain other requirements for asbestos control areas. Seal all internal air vents grilles, etc. to prevent possible contamination to these systems. Also, where an enclosure is not provided, the Contractor may be required by OSHA to conduct personal and area air monitoring for airborne asbestos fibers during the work shift at the designated limits of the asbestos work area at a frequency recommended by the air monitoring professional by not less than once every 4 hours. If the quantity of airborne asbestos fibers monitored at any time is greater than or equal to 0.01 fibers/cc of air, stop work, correct the condition(s) causing the increase, and notify the Owner's Representative immediately. If adjacent areas are contaminated, clean the areas, monitor, and visually inspect the area as specified herein.

Asbestos Handling Procedures:

General Procedures: Wet asbestos material with a fine spray of amended water, other approved wetting agent, or a removal encapsulant during removal, cutting, or other handling to reduce the emission of airborne fibers. Remove material and immediately place in sealed impermeable bags. Collect asbestos waste, scrap, debris, bags, containers, equipment, and asbestos-contaminated clothing which may produce airborne concentrations of asbestos fibers; place in sealed impermeable bags constructed of 6-mil plastic sheet. Sealed impermeable bags shall be stored and removed in asbestos waste drums. Provide asbestos caution labels on sealed impermeable bags and asbestos waste drums. Where unusual circumstances prohibit the use of sealed impermeable bags, the contractor shall submit, in the asbestos plan, an alternate proposal for removal of asbestos materials and containment of asbestos fibers.

Non-friable Asbestos Procedures:

Work procedures that will cause dust and airborne asbestos fibers to be released will not be permitted. Asbestos materials shall not be dropped, thrown, nor roughly handled, but shall be carefully handled during all stages of removal. Fiber control methods including wet removal, isolation and partial enclosure of the work area by plasticizing and use of appropriate respirators are strongly recommended as a minimum requirement for removing non-friable asbestos materials such as floor tiles. All hand-operated and power tools used when working with non-friable asbestos materials that could cause airborne asbestos fibers shall be provided with exhaust ventilation systems, in accordance with ANSI 79.2 and 29 CFR 1926.58. During removal, keep asbestos materials wet with water containing an approved wetting agent or surfactant. Wrecking, bulldozing, and similar operations will not be permitted during the removal of asbestos materials.

Monitoring:

Monitoring of airborne concentrations of asbestos fibers shall be in accordance with 29 CFR 1926.58 and as specified herein. As required air monitoring, testing, and reporting shall be performed by a full-time employee of an approved testing laboratory.

Monitoring During Asbestos Work:

Perform personal and area monitoring on characteristic asbestos work tasks and establish the TWA during the first exposure to airborne concentrations of asbestos. When an enclosed asbestos control area is not required, after initial TWA's are established, perform personal monitoring at the designated limits of the asbestos work area.

Site Inspection:

While performing asbestos removal work, the Contractor shall be subject to on-site inspection by the Owner's Representative, who may be assisted by safety or health personnel. If the work is in violation of specification requirements, the Owner's Representative will issue a stop work order to be in effect immediately and until the violation is resolved. Standby time and expenses required to resolve the violation shall be at the Contractor's expense.

Equipment:

Furnish the Owner's Representative with two complete sets of personal protective equipment daily, as required herein, for entry to and inspection of the asbestos control area. The personal protective equipment furnished shall include disposable protective whole body covering, head coverings, gloves, foot coverings, eye protection, and use of the Contractor's change room. The personal protective equipment shall remain the property of the Contractor.

Respirators:

Select respirators approved by the Mine Safety and Health Administration (MSHA) and the National Institute for Occupational Safety and Health (NIOSH), Department of Health and Human Services, for use in atmospheres containing asbestos fibers. Type C air supplied respirators will not be required due to the hazard created by the air lines on the roof. Furnish personnel engaged in the removal and demolition of asbestos materials with Powered Air Purifying Respirators equipped with HEPA cartridges, until the industrial hygienist establishes the TWA. Documentation of similar jobs exhibiting fiber counts acceptable for Powered Air Purifying Respirators will be required on site. After the TWA is established, the Contractor shall furnish respirators as presented in 29 CFR 1926.58 as follows:

TIME WEIGHTED AVERAGE OF ASBESTOS IN THE BREATHING ZONE OUTSIDE THE RESPIRATOR

(fibers longer than 5 micrometers per cubic Centimeter of air)

REQUIRED RESPIRATOR

Half-mask air purifying respirator equipped with high-efficiency filters	2.0 or less
Full facepiece air-purifying respirator equipped with high-efficiency filters	2 - 10
Powered air-purifying respirator equipped with high-efficiency filters or supplied-air respirator operated in continuous flow mode	10 - 20
Full facepiece supplied-air respirator operated in pressure demand mode	20 - 200
Full facepiece supplied-air respirator operated in pressure demand mode equipped with an auxiliary positive pressure self- contained breathing apparatus	greater than 200 or unknown

NOTE: a. Respirators assigned for high environmental concentrations may be used at lower concentrations.

b. A high-efficiency filter means a filter that is at least 99.97 percent efficient against mono-dispersed particles of 0.3 micrometers in diameter or larger.

Special Clothing:

Protective Clothing: Furnish personnel disposable protective whole body clothing, head coverings, gloves, and foot coverings. Cloth gloves may be worn for comfort, but shall not be used alone. Secure sleeves at the wrists and secure foot coverings at the ankles.

Decontamination Systems: Provide a personnel decontamination system and an equipment decontamination system as described herein. Personnel entry/exit procedures shall be as described in 29 CFR 1926.58. Wastewater shall be collected and disposed of as asbestos-contaminated material or shall be filtered through a filter of at least 0.5 micron particle size collection capability before disposal into the sanitary sewer system. Handle and dispose of filters as asbestos-contaminated waste.

Warning Signs and Labels: Provide caution signs printed in English at approaches to asbestos control areas. Locate signs at such a distance that personnel may read the sign and take the necessary precautions before entering the area. Provide caution labels printed in English. Affix labels to asbestos materials, scrap, waste, debris, sealed impermeable bags, asbestos waste drums, and other asbestos-contaminated products.

29 CFR 1910.145, paragraph (d) (4), vertical format, minimum 20 by 14 inches; spacing between two consecutive lines shall be at least equal to the height of the upper line. Display the following legend in the lower panel:

<u>Legend</u>	<u>Notation</u>
Danger	1-inch Sans Serif Gothic or Block
Asbestos	1-inch Sans Serif Gothic or Block
Cancer and Lung Disease Hazard	1/4-inch Sans Serif Gothic or Block
Authorized Personnel Only	1/4-inch Gothic
Respirators and Protective Clothing are Required in this area	1/4-inch Gothic

CLEANUP AND DISPOSAL:

Cleanup: Maintain surfaces of the asbestos control area free of accumulations of asbestos fibers. Restrict the spread of dust and debris; keep waste from being distributed over the general area. Do not dry sweep or blow down the space with compressed air. When asbestos removal, disposal, and cleanup are complete, execute copy of final visual inspection form. Do not remove the asbestos control area enclosure (or roped-off perimeter) and caution signs prior to the execution of final visual inspection. The Owner's Representative will visually inspect the affected surfaces for residual asbestos material and accumulated dust before and after the removal of the asbestos control area; the Contractor shall reclean areas showing dust or residual asbestos materials. If recleaning is required, the Owner will deduct the cost for air monitoring during recleaning from the contract sum. Notify the Owner's Representative before unrestricted entry is permitted.

Removal of Asbestos Waste Containers: Store asbestos waste containers in the asbestos control areas until the control area cleanup is complete, or provide a waste container removal system. The waste container removal system shall consist of a loading and unloading staging area, a washdown station inside the asbestos control area, and a waste container holding area. Provide warning signs as specified herein for asbestos control areas. The waste container removal system shall be constructed to prevent the escape of asbestos fibers from the area. Personnel entering the waste container removal system shall wear personal protective equipment. The system shall not be used to enter or exit the work-site. Access to outside the waste container removal system shall be sealed except during the removal of asbestos waste containers. Perform cleanup of the waste container removal system as specified herein for enclosed asbestos control areas. Do not remove the waste container removal system enclosure and warning signs prior to the Owner's Representative's receipt of the final visual inspection certification.

Disposal of Asbestos: Dispose of waste asbestos material (by burial under at least 6 inches of daily compacted cover of non-asbestos materials and by final cover of at least 2 feet of compacted earth) at a state-approved sanitary landfill. Procedure for hauling and disposal shall comply with 40 CFR 61, Subpart M, and state, regional, and local standards. Sealed impermeable bags may be dumped from drums into the burial site unless bags have been broken or damaged. Damaged bags shall be buried in drums. Uncontaminated drums may be recycled. Workers unloading sealed drums shall wear appropriate respirators and personal protective equipment when handling asbestos materials at the disposal site.

FINAL VISUAL INSPECTION FORM

Work area location _____
in accordance with Section 02080. The Contractor hereby certifies that he has visually inspected the Work Area, and has found no dust, debris, or residue.

by: (Signature) _____ Date: _____
(Print Name) _____
(Print Title) _____

CONSULTANT VERIFICATION

The Consultant hereby verifies that he has accompanied the Contractor on his final visual inspection has been thorough and to the best of his knowledge and belief, the Contractor's certification above is a true and honest one.

by: (Signature) _____ Date: _____
(Print Name) _____
(Print Title) _____

END OF SECTION

S&ME

9711 Southern Pine Boulevard
Charlotte, NC 28273
704-940-1830 Fax 704-565-4929
NVLAP ID 102075-0

POLARIZED LIGHT MICROSCOPY
Performed by EPA 600/R-93/116 Method

Asbestos Analysis Summary

Client Name Floyd Abrams Company
Client Job USC Law Center 12.0100
PO Box 6136
Columbia SC 29260

Date Received 3/20/2012
Date Analyzed 3/26/2012

Job Number 1355-00-427

Lab ID:	Sample #:	Appearance	Comments	Asbestos %/Type	Non-Asbestos Fibrous %/Type	Non-Fibrous %/Type
12-4108	C-200	BLACK FIBROUS		8 CHRYSOTILE	10 CELLULOSE	80 OTHER
					2 GLASS	
12-4109	C-201	BLACK FIBROUS		ND	15 GLASS	85 OTHER
12-4110	C-202	BLACK FIBROUS		3 CHRYSOTILE	10 GLASS	85 OTHER
					2 CELLULOSE	
12-4111	C-203	SILVER/BLACK FIBROUS		3 CHRYSOTILE	15 GLASS	80 OTHER
					2 CELLULOSE	

Analyzed by: Jane Wasilewski

Additional Comments:

Jane Wasilewski
Laboratory Manager

For heterogeneous samples easily separated into subsamples, and for layered samples, each component is analyzed separately. ND = None Detected (Asbestos Not Present In Representative Sample). RCF= (Refractory Ceramic Fiber) The results pertain only to the sample identification above. The sample may not be fully representative of the larger material in question. This sheet may not be reproduced except with permission from SMT, Inc. This report may not be used to claim product endorsement by NVLAP or any agency of the U.S. Government. Although Polarized Light Microscopy (PLM/Dispersion Staining) (Method EPA 600/R-93/116) is the specified method for analysis of bulk material samples for asbestos under the EPA Asbestos Hazard Emergency Response Act, there have been reports that this method may not identify asbestos when fiber sizes are extremely small or if they are bound in a resinous material. Such materials include floor tile, mastic and asphaltic roofing. Currently, reanalysis by Transmission Electron Microscopy (TEM) to verify results of <1% or "None Detected" for these materials is recommended.

Job Number 1355-00-427

Lab ID:	Sample #:	Appearance	Comments	Asbestos %/Type	Non-Asbestos Fibrous %/Type	Non-Fibrous %/Type
12-4112	B-204	BLACK FIBROUS		25 CHRYSOTILE	15 GLASS 2 CELLULOSE	58 OTHER
12-4113	B-205	BLACK FIBROUS		12 CHRYSOTILE	20 GLASS 3 CELLULOSE	65 OTHER
12-4114	B-206	BLACK FIBROUS		20 CHRYSOTILE	25 GLASS 2 CELLULOSE	53 OTHER
12-4115	B-207	WHITE/BLACK FIBROUS		20 CHRYSOTILE	15 GLASS 10 CELLULOSE	55 OTHER
12-4116	C-208	BLACK FIBROUS		ND	20 GLASS	80 OTHER

Analyzed by: Jane Wasilewski

Additional Comments:

Jane Wasilewski
Laboratory Manager

For heterogeneous samples easily separated into subsamples, and for layered samples, each component is analyzed separately. ND = None Detected (Asbestos Not Present in Representative Sample). RCF= (Refractory Ceramic Fiber) The results pertain only to the sample identification above. The sample may not be fully representative of the larger material in question. This sheet may not be reproduced except with permission from SME, Inc. This report may not be used to claim product endorsement by NVLAP or any agency of the U.S. Government. Although Polarized Light Microscopy (PLM/Dispersion Staining) (Method EPA 600/R-93/116) is the specified method for analysis of bulk material samples for asbestos under the EPA Asbestos Hazard Emergency Response Act, there have been reports that this method may not identify asbestos when fiber sizes are extremely small or if they are bound in a resinous material. Such materials include floor tile, mastic and asphaltic roofing. Currently, reanalysis by Transmission Electron Microscopy (TEM) to verify results of <1% or "None Detected" for these materials is recommended.

BULK SAMPLE

CHAIN OF CUSTODY RECORD

133-00-427

ENGINEERING • TESTING
ENVIRONMENTAL SERVICES



PROJECT NO. 12.0100		PROJECT NAME USC LAW CENTER		RELINQUISHED BY:		DATE		TIME		RECEIVED BY:	
FACILITY USC LAW CENTER		RELINQUISHED BY:		DATE		TIME		RECEIVED BY:		3/20/12	
SAMPLER(S) TAD ASBESTOS		DATE TAKEN 3/12		RELINQUISHED BY:		DATE		TIME		RECEIVED BY:	
SAMPLE #	LAB NUMBER	DATE ANALYZED	ANALYSTS INITIALS	ASBESTOS + N/D	ARCHIVE NUMBER	DATE ARCH	ARCHIVER INITIALS	SPECIAL INSTRUCTIONS			
C-200	12-4108							ROOF A			
C-201	09							ROOF D			
C-202	10							ROOF D4			
C-203	11							ROOF D1			
B-204	12							BASE A			
B-205	13							BASE D			
B-206	14							BASE D4			
B-207	15							BASE D1			
C-208	12-4116							BASE D1			

ALL SAMPLES WILL BE DISPOSED OF AFTER ANALYSIS UNLESS OTHERWISE REQUESTED

By signing below, I warrant that I am authorized to enter into this agreement for the client named below, and that I authorize the above analysis subject to the terms and conditions on the reverse hereof.

AUTHORIZED BY

TAD ASBESTOS

03/16/12

This agreement is governed by the terms and conditions on the reverse side hereof.

PRINT NAME

TAD ASBESTOS

Analysis charges shall be as included in S&ME, Inc.'s fee schedule in effect at the time of the analysis.

CLIENT INVOICE INFORMATION

Client Name: TAD ASBESTOS COMPANY, INC.

Client PO#

Address

PO Box 6136

City, State, Zip

Columbia SC 29260-6136

Phone

803.343.1272

FAX

803.343.1274

SEND COPIES OF RESULTS TO

Name, Dept.

Co.

Address

S&ME

City, State, Zip

Phone

FAX

WHITE COPY-LABORATORY

YELLOW COPY-ACCOUNTING

PINK COPY-CLIENT

SECTION 02084

DISPOSAL OF ASBESTOS-CONTAINING WASTE MATERIAL

PART 1 GENERAL

1.1 SECTION INCLUDES

- 1.1.1 Asbestos-containing waste materials and debris which is packaged in accordance with the provisions of this Specification shall be disposed of at designated sanitary landfills at an interval appropriate to prevent accumulation of generated waste onsite.

1.2 RELATED SECTIONS

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

1.3 SUBMITTALS

- 1.3.1 Refer to Section 01300, Submittals.

PART 2 PRODUCTS

Not Used.

PART 3 EXECUTION

3.1 GENERAL

- 3.1.1 Decontaminated and sealed single-bagged waste shall be double-bagged and sealed prior to being removed from the Work Area.
- 3.1.2 All double-bagged and poly-wrapped waste shall be placed into an appropriate lined enclosed vehicle for transportation to the disposal site unless otherwise authorized in writing by the Consultant.
- 3.1.3 The disposal bags shall be labeled as required by 29 CFR 1910.26 and the Department of Transportation Regulations classifying asbestos as a hazardous waste.
- 3.1.4 Carefully load containerized waste on sealed trucks or other appropriate vehicles for transport. Place bundles on a Hy-Lift type fork lift and lower to the transport truck. Palletized handling of sealed and labeled bundles is permissible. Throwing, pitching or dropping bundles on a truck bed from the roof level is expressly and strictly forbidden. Exercise care before and during transport to ensure that no unauthorized persons have access to the material.

- 3.1.5 Do not store containerized material outside of the Work Area. Take containers from the Work Area directly to a sealed truck.
- 3.1.6 Do not transport containerized waste materials on open trucks. Label drums with same warning labels as bags. Treat drums that have been contaminated as asbestos-containing waste and dispose of in accordance with this specification.
- 3.1.7 Advise the sanitary landfill operator at least 24 hours in advance of transport of the quantity of material to be delivered.
- 3.1.8 At the landfill site, sealed containers shall be carefully removed from the truck and placed on the ground. Containers shall not be dumped or thrown from the truck.
- 3.1.9 There will be no visible emissions to the outside air from an active waste disposal site where asbestos-containing waste is deposited.
- 3.1.10 Only sealed bags or impermeable containers are permitted to be deposited in landfill. Damaged, broken, or leaking plastic bags must remain in the impermeable container and the container must be deposited in the landfill. Once deposited, the bags and drums are to be covered by a sheet of 6-mil polyethylene sheeting.
- 3.1.11 Retain signed and dated receipts from landfill for materials disposed.

END OF SECTION

DIVISION 6

WOOD

SECTION 06100

ROUGH CARPENTRY

PART 1 GENERAL

1.1 WORK INCLUDED

- 1.1.1 Install new treated wood nailers and blocking where required.
- 1.1.2 Install new treated wood blocking for retrofit roof drains

1.2 RELATED SECTIONS

- 1.2.1 Selective Demolition – Section 02070
- 1.2.2 Bituminous Temporary Roof – Section 07192
- 1.2.3 Built Up Asphalt Roofing – Section 07510
- 1.2.4 Sheet Metal Flashing and Trim – Section 07620
- 1.2.5 Roof Specialties and Accessories – Section 07700

1.3. ENVIRONMENTAL CONDITIONS

- 1.3.1 Material installation shall proceed only when weather conditions are in compliance with the manufacturer's recommendations for installation and no precipitation is imminent. Materials installed during adverse weather conditions will be subject to rejection including removal and replacement with new materials at no additional cost to Owner.

1.4 QUALITY ASSURANCE

- 1.4.1 The Contractor shall provide sufficient qualified workmen and supervisors who shall be present at all times during execution of this portion of the work and who shall be familiar with the type of construction involved and the materials and techniques specified.

PART 2 PRODUCTS

2.1 MATERIALS

- 2.1.1 Treated Wood: Shall be No. 2 Common Southern Yellow Pine, kiln-dried after treatment to a moisture content of not more than 19 %. Shall be sound, thoroughly seasoned, dressed to nominal finish dimension, and free of warping, cupping and bowing.

All nailers and other blocking associated with the roofing installation shall be pressure-treated with 0.25 pcf retention of chromated copper arsenate (CCA Type

C) as produced by licensed treaters of the Koppers Company or approved equal and shall conform to AWWPA Standard C2 above ground. The presence of AWWPA quality mark LP-2 on each piece shall be accepted as evidence of conformance to this Specification. Where full penetration of CCA is not evident, field cuts shall be coated in accordance with AWWPA Standard M-4. Dimensions are to be determined by job, conditions, and the membrane manufacturer's specifications.

- 2.1.2 Tapered HD Wood Fiberboard for Coping Cap: Shall be 1 inch X 1/2 inches conforming to ASTM C208, Class C ASTM C209, Federal Specifications LLL-I-5358, Underwriters Laboratory, Inc., and Factory Mutual Class I.

2.2 ACCESSORIES

- 2.2.1 Nails: Shall be 16-penny, (stainless steel or double hot dipped zinc coated) annular-ring nails, where new nailers are fastened to new or existing nailers. Minimum embedment shall be 1-1/2 inches.
- 2.2.2 Threaded Masonry/Concrete Fasteners: Corrosion resistant, threaded fastener with low profile head, 2 inches deep embedment, as manufactured by:
- a. Hilti
 - b. Buildex
 - c. Olympic (OMG)
 - d. Powers
 - e. Tru-Fast
- 2.2.3 Threaded Steel/Wood Fasteners: Corrosion resistant, self-tapping, self-drilling screw with low profile head; 2 inches deep embedment; as manufactured by:
- a. Powers
 - b. Buildex
 - c. Olympic
 - d. Tru-Fast
- 2.2.4 One-Piece Masonry Expansion Fasteners: Shall be Powers Zamac Nailin drive anchor with Type 304 stainless steel nail 1/4" x 2".
- 2.2.5 One-Piece, Vibration Resistant Masonry Anchor: Shall be Powers SPIKE 1/4 inch diameter manufactured from high grade carbon steel (ASTM B 633) with mushroom head at one end and a specially designed "S" shaped expansion mechanism on the working end. Pre-drill hole 1/2 inch depth greater than SPIKE length.
- 2.2.6 Sheet Metal Flashing Fasteners for Concrete: Shall be Powers Drive flat head 1/4" x 3" made of high grade carbon steel with split type expansion feature.
- 2.2.7 Structural Steel Masonry Fastener: Shall be Powers Wedgebolt carbon steel 3/8" x 4".
- 2.2.8 Wood Blocking/Nailer Adhesive: Shall be Dow Chemical Company Insta-Stik Professional Roof Insulation Adhesive. Insta-Stik is a single component,

moisture cured polyurethane adhesive.

PART 3 EXECUTION

3.1 INSPECTION

- 3.1.1 Verify that existing wood nailers, blocking, etc., are treated and acceptable for compliance with the membrane manufacturer's warranty requirements.
- 3.1.2 The Owner's representative and the Contractor shall document the actual quantities of materials installed.

3.2 INSTALLATION

- 3.2.1 Treated wood nailers shall be installed at appropriate roof perimeters, curbs, and similar penetrations.
- 3.2.2 All nailers shall be of sufficient thickness so as to be flush with the insulation/membrane interface and securely anchored with the appropriate fasteners at spacings not to exceed 16 inches on center , staggered pattern.
- 3.2.3 New wood nailers, blocking, etc., shall be chamfered, beveled, shaved, planed, or shimmed as necessary to provide smooth transition to adjacent materials.
- 3.2.4 New wood blocking shall be installed to facilitate not less than 8 inches of vertical flashing above finished roof surface as indicated in the detail drawings of this Specification.
- 3.2.5 New nominal 6 inch wide wood blocking shall be furnished and installed at all eaves, edges and openings, as required, for blocking to finish flush with the top of the roof insulation.
- 3.2.6 All replacement wood members shall be installed in accordance with performance specifications complying with recommendations from the 1991 National Design Specification for Wood Construction (NDS) published by the American Forest & Paper Association (AF&PA).
- 3.2.7 Install treated wood blocking at new secondary drainage scupper drains.
- 3.2.8 Install new treated wood blocking attached to roof drain bowls to support new retrofit roof drains.
- 3.2.9 All replacement wood members shall be installed in accordance with performance specifications complying with recommendations from the 1991 National Design Specification for Wood Construction (NDS) published by the American Forest & Paper Association (AF&PA).
- 3.2.10 Insta-Stik is supplied in a Twenty-Three (23) pound self-contained canister with a

flexible hose with a flow-tipped nozzle to provide a continuous bead application. Apply to prepared surface of concrete structural deck. Imbed new treated wood blocking for parapet scupper drains into Insta-Stik adhesive.

END OF SECTION

DIVISION 7

THERMAL AND MOISTURE PROTECTION

SECTION 07192

BITUMINOUS TEMPORARY ROOF

PART 1 GENERAL

1.1 WORK INCLUDED

- 1.1.1 Install new fiberglass reinforced asphalt base sheet mechanically fastened over lightweight vermiculite concrete roof deck.
- 1.1.2 Install mopped two ply temporary roof membrane over base sheet.

1.2 RELATED WORK

- 1.2.1 Selective Demolition - Section 02070
- 1.2.2 Rough Carpentry - Section 06100
- 1.2.3 Built-Up Asphalt Roofing - Section 07510
- 1.2.4 Roof Accessories – Section 07700

1.3 SUBMITTALS

- 1.3.1 The Contractor shall submit manufacturer's physical property data sheets for bitumen and roofing felts, including Material Safety Data Sheets.

1.4 ENVIRONMENTAL CONDITIONS

- 1.4.1 Material installation shall proceed only when weather conditions are in compliance with the applicable manufacturer's recommendations for installation and no precipitation is imminent.
- 1.4.2 Materials installed during adverse weather conditions shall be subject to removal and replacement.
- 1.4.3 Asphalt Kettle for temporary roof membrane shall be equipped with a Safety Loading System and Afterburner to reduce emissions from heating asphalt. The Updraft Afterburner and Safety Loader shall be factory installed accessories to ensure OSHA safety compliance. Fume guard, Afterburner/Safety Loader shall be as manufactured by Reeves Roofing Equipment Co., Inc., Garlock Equipment, Cleasby Manufacturing Co., Inc. or approved equal.

1.5 WARRANTY

- 1.5.1 Warranties shall be in accordance with Section 01740, Warranties and Bonds.

PART 2 PRODUCTS

2.1 MATERIALS

- 2.1.1 Sheathing Paper: Shall be rosin sized sheathing paper conforming to ASTM D 549.
- 2.1.2 Base Sheet: Shall be glass fiber mat coated with weathering grade asphalt conforming to the requirements of ASTM D 4601, Type II, Tables 1 and 2, Johns Manville-PP28, GAF GAFGLAS #75 Base Sheet, Firestone Building Products MB Base M or approved equal.
- 2.1.3 Bitumen: Shall be “**no smell**” air blown asphalt manufactured specifically for roofing purposes conforming to the latest requirements of ASTM D-312, Type III and the membrane manufacturer.
- 2.1.4 Roof Area A, Base Sheet Fasteners: Shall be Johns Manville Ultra-Lok lightweight concrete base sheet fastener.
- 2.1.5 Base Sheet Nails: For lightweight vermiculite concrete roof deck shall be 2 inches Zono Tite Base Ply Fastener, or approved equal (Roof Areas D).
- 2.1.6 Primer: Shall be asphaltic primer conforming to the requirements of ASTM D-41.
- 2.1.7 Temporary Roof Base Plies: Shall be perforated glass fiber mat coated with weathering grade asphalt; GlasPly IV Roofing Felt (John Manville Roofing Systems); GAFGLAS Ply 4 Roofing Felt (GAF Building Materials Corporation); or approved equal, all conforming to ASTM D 2178-89, Type IV.
- 2.1.8 Roofing Cement: Shall be asphalt-based, non-asbestos fiber roofing cement conforming to the requirements of ASTM D 2822, Type II or III; SS-C-153; Johns Manville Bestile Industrial Roofing Cement, or approved equal.

PART 3 EXECUTION

3.1 INSPECTION

- 3.1.1 The deck surface shall be smooth, clean, dry, free of debris and all foreign matter prior to receiving base sheet. All roof surfaces shall be swept and inspected prior to the installation of materials, and application of new materials will constitute approval of the surface by the Contractor.
- 3.1.2 All holes from former base ply fasteners shall be filled with Zono Patch or NVS and troweled smooth to provide uniform deck surface.
- 3.1.3 Contractor shall inspect surface of lightweight vermiculite concrete roof deck prior to installation of base sheet. Any imperfections caused during removal of original BUR shall be corrected.
- 3.1.4 Surface of deck shall be free of holes, unbonded or loose skim or slurry coat or another damages caused during demolition.

3.2 INSTALLATION - ASPHALT/FELT TEMPORARY ROOF

- 3.2.1 Contractor shall adhere to the specifications and installation instructions and procedures described herein to be considered minimum requirements for application of materials.
- 3.2.2 Over prepared LWC roof deck, loose lay one ply of rosin sized sheathing paper, two inches side laps and three inches end laps with side laps.
- 3.2.3 Over entire deck surface, install one ply of GlasBase sheet, lapping each sheet a minimum of 2 inches over the preceding sheet. Fasten to roof deck with base sheet fasteners placed through the lap and into the deck on 9 inches centers. Place second row down center of each sheet on 9 inches centers, staggered into 2 rows.
- 3.2.4 Contractor shall follow base sheet fastener spacing diagrams indicated on roof plan sheets for Roof Area A and Roof Areas D.
- 3.2.5 Insert base ply FM-90 fastener with ES Magnetic Driver.
- 3.2.6 Contractor shall prime full strength all base sheet fastener and plates.
- 3.2.7 Over base sheet, install one ply of Type IV roofing felt in solid uniform 23-45 lbs/square mopping of **“no smell”** hot asphalt.
- 3.2.8 Install one additional ply of Type IV roofing felt offsetting sidelaps 16-20 inches from side laps of the base ply in a solid uniform 20-30 lbs/square mopping of **“no smell”** hot asphalt.
- 3.2.9 Extend temporary roof at all vertical surfaces at least 4 inches.
- 3.2.10 Seal edge of temporary roof in asphalt roof cement at all roof penetrations.
- 3.2.11 Glaze the entire roof surface with a uniform 10-15 lbs/square surface mopping of **“no smell”** hot asphalt.

END OF SECTION

SECTION 07212

RIGID BOARD INSULATION

PART 1 GENERAL

1.1 WORK INCLUDED

- 1.1.1 Install new UL Fire Resistant Class A perlite roof insulation and factory tapered perlite roof insulation to receive the asphalt built-up roof (BUR) assembly.
- 1.1.2 Install new HD wood fiberboard tapered edge strip.

1.2 RELATED WORK

- 1.2.1 Rough Carpentry - Section 06100
- 1.2.2 Bituminous Temporary Roof - Section 07192
- 1.2.3 Built-Up Asphalt Roofing – Section 07510
- 1.2.4 Roof Specialties and Accessories – Section 07700

1.3 SUBMITTALS

- 1.3.1 Submittals shall be in accordance with Section 01300 of this Specification.

1.4 ENVIRONMENTAL CONDITIONS

- 1.4.1 Material installation shall proceed only when weather conditions are in compliance with the applicable manufacturer's recommendations for installation and no precipitation is imminent.
- 1.4.2 Installation of hot mopped insulation and tapered insulation shall not commence until ambient air temperature is 40 degrees Fahrenheit and rising.
- 1.4.3 Materials installed during adverse weather conditions shall be subject to removal and replacement with new materials at no additional cost to Owner.

1.5 QUALITY ASSURANCE

- 1.5.1 Qualifications of the Manufacturer: Products used in the work of this Section shall be produced by manufacturers regularly engaged in the manufacture of similar items and with a history of successful production acceptable to the Consultant.
- 1.5.2 Qualifications of the Installers: Use adequate numbers of skilled workman who are thoroughly trained and experienced in the necessary crafts and are completely familiar with the specified requirements and the methods needed for the proper performance of the work in this section.

1.6 SHOP DRAWINGS

- 1.6.1 Submit shop drawings for the insulation system, indicating layout of tapered insulation by board size and dimensions, as well as location and fill material.

1.7 STORAGE AND HANDLING

- 1.7.1 Store materials dry in accordance with specifications.
- 1.7.2 Storage of insulation on adjoining sections of reroof area shall be permitted provided material is located as to prevent structural overload.

1.8 WARRANTY

Not Used

PART 2 PRODUCTS

2.1 MATERIALS

- 2.1.1 Monolithic Mineral Perlite ¾-inch Insulation Board and Tapered Roof Insulation: ASTM C 728-82. Perlite insulation shall be manufactured by Johns Manville Sales Corporation, or approved equal. Minimum thickness for tapered stock shall be ½ inch. This is based on "standard" ¼ inch/foot tapered system.
- 2.1.2 Tapered Edge Strip: Shall be Cant Products Inc. high density wood fiberboard in compliance with ASTM C208-72, ASTM C 209.
- 2.1.3 Tapered Insulation shall be fabricated with 1/8 inch per foot slope and 1/4 inch per foot slope. Minimum thickness of tapered stock shall not be less than ½ inch. Sumps at roof drains shall be 4 feet x 4 feet x ½ inch.
- 2.1.4 Primer: Shall be asphaltic primer conforming to the requirements of ASTM D 41.
- 2.1.5 Bitumen: Shall be "no-smell" air blown asphalt manufactured specifically for roofing purposes; Asphalt, Flat Grade: ASTM D 312-84, Type III.
- 2.1.6 Roofing Cement: Shall be Johns Manville Bestile Industrial Roof Cement conforming to the requirements of ASTM D 4586, Type I or approved equal.

PART 3 EXECUTION

3.1 INSPECTION

- 3.1.1 The deck surface shall be smooth, clean, dry, and free of debris and all foreign matter. All roof surfaces shall be swept and inspected prior to the installation of materials, and application of new materials will constitute approval of the surface by the Contractor.
- 3.1.2 Out-of-service roof openings shall be covered with Dens-Deck Firestop Roof Insulation to receive new tapered insulation and asphalt BUR membrane.

3.2 INSTALLATION

- 3.2.1 Contractor shall adhere to the specifications and installation instructions and procedures described herein to be considered minimum requirements for application of materials.
- 3.2.2 Perlite insulation shall be installed in hot mopping of Type III asphalt to base sheet.
- 3.2.3 Install insulation board in hot Type III asphalt at rate necessary to insure 100 percent adhesion of insulation, but not less than 33 pounds per square.
- 3.2.4 Construct cricket at roof curbs with one inch/foot using similar insulation on up-slope side of all curbed units to ensure positive drainage.
- 3.2.5 Wet insulation shall not be acceptable and will be removed and replaced by the Contractor.
- 3.2.6 Mechanically fasten Dens Deck Prime Fireguard underlayment in roof deck closure pans with FM approved deck screws and 3 inches galvalume plates. Deck screen shall be #12 / 1-1/2 inches installed in accordance with FM 1-90 wind uplift testing.
- 3.2.7 Tapered insulation shall be laid in parallel courses with joints staggered. Where more than one layer of insulation is used, joints shall be staggered from underlying layer, with each layer firmly adhered to the previous layer. Tapered insulation shall be sloped 1/8 inch per foot as designed on roof plan sheets.
- 3.2.8 Adjacent boards shall be tightly butted, with gaps greater than 1/8 inch filled by cutting out enough material to allow placement of a three inches wide piece of perlite. All insulation boards shall be staggered.

END OF SECTION

SECTION 07510

BUILT-UP ASPHALT ROOFING

PART I GENERAL

1.1 WORK INCLUDED

- 1.1.1 Install new 3 ply fiberglass reinforced felt asphalt built-up roof with Fire Rated modified bitumen cap sheet.
- 1.1.2 Installation of ply sheets and modified bitumen flashing membrane.
- 1.1.3 Installation of preformed roof walkway protection pads.

1.2 RELATED SECTIONS

- 1.2.1 Rough Carpentry - Section 06100
- 1.2.2 Bituminous Temporary Roof – Section 07192
- 1.2.3 Rigid Board Insulation - Section 07212
- 1.2.4 Sheet Metal Flashing and Trim - Section 07620
- 1.2.5 Roof Specialties and Accessories - Section 07700
- 1.2.6 Sealants and Caulking – Section 07920

1.3 SUBMITTALS

- 1.3.1 Refer to Section 01300, Submittals and 01340, Shop Drawings, Product Data, and Samples.

1.4 QUALITY ASSURANCE

- 1.4.1 Standards: Comply with standards specified in this section and as listed in the General Requirements.
- 1.4.2 Qualification of Manufacturer: Products used in the work included in this section shall be produced by manufacturers regularly engaged in the manufacture of similar items and with a history of successful production acceptable to the Owner.
- 1.4.3 Qualifications of Installers: Use adequate numbers of skilled workmen who are thoroughly trained and experienced in the necessary crafts and who are completely familiar with the specified requirements and the methods needed for proper performance of the work in this section. As a minimum, the roofing foreman and the membrane applicator shall be certified and trained by membrane manufacturer and shall be experienced in the application of the specified membrane system. Written certification must be provided.

1.5 ENVIRONMENTAL CONDITIONS

- 1.5.1 Materials installation shall proceed only when weather conditions are in compliance with the applicable manufacturer's recommendations for installation and no precipitation imminent.
- 1.5.2 Installation of BUR assembly shall not commence until ambient air temperature is 40 degrees Fahrenheit and rising.
- 1.5.3 Materials installed during adverse weather conditions shall be subject to removal and replacement.
- 1.5.4 Asphalt Kettle shall be equipped with a Safety Loading System and Afterburner to reduce emissions from heating asphalt. The Updraft Afterburner and Safety Loader shall be factory installed accessories to ensure OSHA safety compliance. Fume guard, Afterburner/Safety Loader shall be as manufactured by Reeves Roofing Equipment Co., Inc., Garlock Equipment, Cleasby Manufacturing Co., Inc. or approved equal.

1.6 WARRANTY

- 1.6.1 Refer to Section 01740, Warranties and Bonds.

PART 2 PRODUCTS

2.1 APPROVED MANUFACTURERS

- 2.1.1 Johns Manville Roofing Systems
- 2.1.2 GAF Building Materials Corporation
- 2.1.3 Firestone Building Products

2.2 MATERIALS

- 2.2.1 Sheathing Paper: Shall be rosin sized sheathing paper conforming to ASTM D 549.
- 2.2.2 Base Sheet for BUR: Shall be a heavy duty asphalt coated fiberglass venting base sheet with coarse mineral surface on one side creating a one inch square grid with a waffle pattern embossed into the surface. Johns Manville Ventsulation felt conforms to ASTM D4897, Type II. Other acceptable ventilated base sheet would be Stratavent Nailable by GAF.
- 2.2.3 Vent Strips: Shall be glass fiber mat coated with weathering grade asphalt conforming to the requirements of ASTM D 4601, Type II, Tables 1 and 2, Johns Manville-Perma Ply 28 (PP 28), GAF GAFGLAS #75 Base Sheet, or as approved by roofing materials manufacturer.
- 2.2.4 Base sheet fasteners: Shall be Zonotite base sheet fasteners one (1") inch length.

- 2.2.5 Fiberglass Roofing Ply Sheets: Shall conform to ASTM D 2178, Type VI, Table 1 and 2; Johns Manville GlasPly Premier by Johns Manville Roofing Systems; GAFGLAS Ply 6 by GAF Building Materials Corporation; or approved equal.
- 2.2.6 Bitumen: Shall be **no- smell** air-blown asphalt manufactured specifically for roofing purposes conforming to the latest requirements of ASTM D-312, Type III and the membrane manufacturer.
- 2.2.7 Modified Bitumen Cap Sheet: Shall be SBS modified bitumen, mop grade, consisting of heavy duty polyester reinforcing mat with modified asphalt granular surface conforming to ASTM D 6164, Type I or II, Grade G. Cap sheet shall be Johns Manville JM DynaGlas FR; GAF Materials Corporation Ruberoid Mop 170 FR; Firestone Building Products SBS Premium FR (White) or approved equal.
- 2.2.8 Modified Bitumen Base Flashing: Shall be a styrene-butadiene-styrene (SBS) modified membrane, mop grade, consisting of laminated with modified asphalt granular surface conforming to ASTM D 6221, Type I; Johns Manville DynaFlex; GAF Ruberoid Mop Plus, Firestone Building Products SBS Glass FR or approved equal; all as tested, classified, and labeled by U.L.
- 2.2.9 Cold Application Adhesive for Roof Area A Cap Sheet: Shall be Johns Manville MBR Flashing Cement, a two-compound, elastomeric cold application adhesive.
- 2.2.10 Cold Application Adhesive Area D Cap Sheet conforming to ASTM 3019 Type III, Grade 2: Shall be Johns Manville Cold Application FM Adhesive, GAF Matrix 103 Cold Processed Adhesive, or approved equal. Cold application adhesive is use in adhering bitumen cap sheet membranes in temperatures between 40 and 100°F (4 and 38°C). If the temperature is below 50°F (10°C), the adhesive must be stored in a warm area, approximately 70°F (21°C). MBR Cold Application Adhesive must be installed with a notched squeegee or trowel. Average coverage per ply is 1.5 to 2.0 gallons per square (0.61 to 0.82 liters/m²).
- 2.2.11 Flashing Cement: Shall be Johns Manville Bestile Industrial Roof cement conforming to the requirements of ASTM D 4586, Type I or approved equal.
- 2.2.12 Walkway Protection Pad: Shall be Johns Manville DynaTred Plus 32 inches x 32 inches x 3/8 inch color Black/White, or approved equal.
- 2.2.13 Plumbing Vent Flashing: Shall be 4 lb soft lead sheet, ASTM B 29, one piece preformed for 1-1/2 inch to 4 inch pipe with 12 inch height.
- 2.2.14 Asphalt Primer: Shall be asphaltic primer conforming to the requirements of ASTM D 41.
- 2.2.15 Cant Strips: ASTM 208-82, Class C, wood fiberboard 2" by 5-1/2", cut to fit at 45 degrees with 5-1/2 inch face.
- 2.2.16 Flexible Vinyl Flashing for Gravel Stop, Scupper Drain: Shall be Lexsuco RF flashing, 40 mil thickness, 12 inches X 50 feet. Hot air welded seams (3 inches) shall be installed at laps or seams.

- 2.2.17 Flexible Vinyl Flashing for Coping Cap: Shall be Lexsuco PVC water barrier 20 mil thickness and width as required. Lap or splice adhesive shall be Lexsuco CA-103.
- 2.2.18 Termination Bar: Shall be Aluminum Alloy 6061-T6, 1/8 inch x 1 1/4 inch, pre-punched for fastening 6 inches on center. Fasteners for termination bar at masonry shall be stainless steel Powers Mushroom Head Zamac Nailer (1/4 inch by 1-1/2 inch).
- 2.2.19 Roof Drain Lead Flashing: Shall be minimum 4 lb per square foot soft sheet lead conforming to ASTM B 29, size 36 inches x 36 inches.
- 2.2.20 Pitch Pan System: Shall be Weather-Tite Lockin' Pockets Inter-Locking Pitch Pocket System manufactured by WTT Systems, LLC Chagrin Falls, OH 44023 (866) 868-0883. Sizes shall be either 6 inches or 8 inches square.
- 2.2.21 Fill for Pitch Pan System: Shall be Weather-Tite Hurricane Force® Universal Sealer manufactured by WTT Systems, LLC.
- 2.2.22 PermaFlash System for Pipe and Miscellaneous Roof Penetration Flashing: Shall be PermaFlash system a Johns Manville designed multi-ply system of two part adhesive/ cement primer, scrim providing flexibility in waterproof difficult roof penetration flashings. System shall be Johns Manville PermaFlash system incorporating the following products:
- 2.2.17.1 M BR Flashing Cement Base
 - 2.2.17.2 M BR Cement Activator
 - 2.2.17.3 M BR Flashing Cement Cartridge
 - 2.2.17.4 PermaFlash Primer
 - 2.2.17.5 PermaFlash Scrim

PART 3 EXECUTION

3.1 INSPECTION

- 3.1.1 Do not proceed with roofing until all vents, curbs, blocking, nailing strips, and projections through the roof deck have been installed.
- 3.1.2 Verify insulation surface is smooth, clean, rigid and free from debris, projections, holes, etc. which may adversely affect the membrane application.
- 3.1.3 Verify proper securement of the insulation boards and that no cracks in the insulation exist greater than 1/8 inch; all joints to be sealed prior to installing membrane system.
- 3.1.4 Verify wood blocking is secure for installation of flat expansion joint.

3.2 INSTALLATION

- 3.2.1 The Contractor shall strictly adhere to the applicable manufacturer's specifications for installation unless otherwise specified. Instructions and procedures described herein are to be considered minimum requirements for application of materials.

- 3.2.2 Do not apply materials on wet or damp surfaces, over dust, dirt, or other foreign matter.
- 3.2.3 Prior to installation of base sheet, roll out base sheet to allow relax condition.
- 3.2.4 Install base sheet over rosin sized sheathing paper with three (3") inches side laps and six (6) inches end laps. With Zonotite fasteners mechanically fasten base sheet into lightweight concrete fill. Comply with fastening pattern on plan sheet for each zone.
- 3.2.5 Insert base ply FM-90 fastener with ES Magnetic Driver.
- 3.2.6 Installation specification is based on three (3) ply construction with a granular surface cap sheet in accordance with manufacturer's specifications 4FID-CA with GlasPly Premier Type VI Felts by Johns Manville Roofing Systems; or equal specifications by approved manufacturer.
- 3.2.7 Provide kettle with accurate working thermometer or provide kettle operator with a hand thermometer. When using a hand thermometer, take the kettle temperature at the farthest point from burners or at draw-off spigot.
- 3.2.8 Hot asphalt dispensing machine may be used employing "drop chain" to spread asphalt.
- 3.2.9 Prime all metal and masonry surfaces to receive hot bitumen and cement using approximately one gallon of primer per 100 square feet of surface. Allow primer to dry thoroughly before applying bituminous materials.
- 3.2.10 For lightweight vermiculite concrete deck Install precut 4 inches wide vent strip under ventilated base sheet turned up flashing substrate (curb, base, parapet) to top of wood blocking. Nail to wood blocking. Install vent strip (cut from Glass Base Sheet) prior to primer application to substrate. Vent strip shall extend over rosin sized sheathing paper \pm 12 inches.
- 3.2.11 All roofing plies shall be solid mopped in place. Felt laying devices or machines will not be used.
- 3.2.12 All plies shall be hand broomed into place as they are applied to insure felt makes full contact with asphalt. **Foot traffic is not permitted on roofing felts until asphalt interply has cooled.** Asphalt shall extend beyond edge of lap minimum of 1/2 inch.
- 3.2.13 Install in all valleys and on ridge one additional ply of Type VI roofing felt in solid mopping of hot asphalt.
- 3.2.14 Roofing felts shall be kept within 6 feet of the hot asphalt. Whenever possible, the entire roll shall be applied in a continuous manner.
- 3.2.15 Install cant at locations where membrane transitions from horizontal to vertical. Set cant in continuous bed of flashing cement on both horizontal and vertical surfaces. All roofing felts shall be cut off approximately 2 inches above the top of

all cants.

- 3.2.16 After inspection of three ply installation, verify all laps are bonded, penetrations are watertight. Install light glaze coat over felts to seal surface of roof. Glaze coat shall be evenly spread using squeegee, mop to provide uniform seal.
- 3.2.17 Cold application adhesive shall not proceed until glaze coat has cured.
- 3.2.18 Water cut-offs shall be provided at the end of each day's work to completely seal off the materials from possible moisture penetration. Protect edges and incomplete flashings against water entry at all time. Remove cutoffs and temporary protection prior to resumption of work.
- 3.2.19 If asphalt is provided with technical data posted on cartons or in a separate document, that data shall govern temperature. If such information is not provided, the following shall govern:
 - 3.2.19.1 At point of application: Equiviscous temperature plus or minus 25 degrees Fahrenheit (25°F).
 - 3.2.19.2 Maintain kettle temperature 50 degrees Fahrenheit (50°F) below Flash Point.
 - 3.2.19.3 Kettle temperature shall not be kept at or above the Finish Blowing Temperature for more than two hours.
- 3.2.20 Check roof surface carefully for damage and application defects and make appropriate repairs and corrections prior to application of roof surfacing.
- 3.2.21 Completed roof covering must comply with the requirements of Underwriter's Laboratories, Inc. for a Class A roof covering.
- 3.2.22 Cut cap sheet into manageable lengths 12 feet or 18 feet prior to installation. Allow to relax and flatten granular surface down approximately 30 minutes. Maintain 3 inches side laps and 6 inches end laps.
- 3.2.23 Modified bitumen cap sheet shall be installed over three ply asphalt BUR fully adhered with cold application adhesive. Cold application adhesive may be applied to BUR membrane with spray equipment, notched trowel or notched squeegee. Average application rate is 1.5 gallons to 2.0 gallons per square.
- 3.2.24 Hand broom cap sheet or roll with steel roller to fully embed cap sheet and laps into cold application adhesive to achieve 100% adhesion.
- 3.2.25 JM MBR Flashing Cement, a two-component cold application adhesive shall be mixed with an electric drill motor at slow speed. Prepared adhesive shall be applied in a uniform one-sixteenth inch coating by trowel.
- 3.2.26 Contractor shall have adequate fire extinguishers on roof at mixer and at application site.
- 3.2.27 Place subsequent sheets such that all side laps are down-slope laps. Side laps shall be 2 inches minimum; end laps shall be 6 inches minimum.

- 3.2.28 Side laps and end laps shall be completed with heat welded 2 inches width minimum.
- 3.2.29 Contractor shall restrict foot traffic on installed cap sheet for minimum 24 hours to allow adhesive to cure and to minimize bleed out and unsightly tracking.

3.3 BASE FLASHING INSTALLATION

- 3.3.1 Install precut 4 inches wide vent strip under ventilated base sheet turned up flashing substrate (curb, base, and parapet) to top of wood blocking or above termination. Nail to wood blocking. Install vent strip (cut from Glass Base Sheet) prior to primer application to substrate. Vent strip shall extend over rosin sized sheathing paper \pm 12 inches.
- 3.3.2 Prior to application of base flashing to galvalume steel, masonry or steel curb, apply primer and allow to thoroughly dry.
- 3.3.3 Apply a strip of Type VI fiberglass roofing felt in steep grade asphalt without voids, extending at least 4 inches on roof, up the face of the cant to the top of vertical surface.
- 3.3.4 Over the Type VI felt, apply a second ply of Type VI felt in steep grade asphalt, without voids, and extending above the top of first ply and on to roof 8 inches beyond cant strip. Lap and cement ends 3 inches minimum.
- 3.3.5 Pre-cut DynaFlex granule surface flashing membrane into maximum 3 feet lengths, allowing for minimum 3 inch side lap and minimum 9 inch extending onto field of roof. Install in full mopping of hot asphalt.
- 3.3.6 Flashing membrane shall be terminated at top of curb, parapet, or masonry substrate, wood nailer 6 inches on center maximum or with termination bar as detailed.
- 3.3.7 Flashing membrane shall conform tightly to vertical and inclined surfaces. Bridging, sagging, air pockets, or voids will not be accepted.
- 3.3.8 All vertical laps shall receive application of roofing cement and 4 inches wide mesh reinforcing.
- 3.3.9 At all laps coat exposed roofing cement with two (2) coats of asbestos free aluminum roof coating. Aluminum coating shall not be installed until roofing cement solvent has "flashed off".
- 3.3.10 Extend all flashing minimum of 8 inches above the finish roof surface and minimum of 8 inches onto horizontal roof surface.
- 3.3.11 All corners shall be reinforced with a hand-cut piece of modified bitumen membrane in the shape of an oval to adequately cover the lapped joint at the corner.

3.4 WALKWAY PROTECTION

- 3.4.1 Install DynaTred Plus walk pads with MBR utility cement. All four corners of each pad shall be fully adhered.
- 3.4.2 Provide minimum 1 inch clearance between pads for drainage.

3.5 GRAVEL STOP FLASHING

- 3.5.1 Prior to installation of cap sheet, prime metal gravel stop flange.
- 3.5.2 Set primed gravel stop in solid bed of roofing cement over 12 inches width Lexsuco RF 40 PVC flashing membrane.
- 3.5.3 Install 2 plies of Type VI roofing felt over primed metal, extending 24 inches and 12 inches onto roof membrane.
- 3.5.4 Complete counterflashing gravel stop with one 12 inches width of granule surface modified bitumen or cap sheet full width.

3.6 SCUPPER FLASHING

- 3.6.1 Prior to installation of cap sheet, prime metal scupper flange.
- 3.6.2 Set primed scupper in solid bed of roofing cement over Lexsuco RF vinyl flashing.
- 3.6.3 Install 2 plies of Type VI roofing felt over primed metal, extending 4 inches and 8 inches onto roof membrane.
- 3.6.4 Complete counterflashing parapet scupper with granule surface modified bitumen cap sheet full.

3.7 ROOF DRAIN FLASHING

- 3.7.1 Install 2-plies Type VI fiberglass reinforced roofing felt fully bedded in roofing cement. Plies shall extend from minimum 1 inch inside clamping ring to 6 inches and 9 inches beyond drain body over roof insulation.
- 3.7.2 Prime top and bottom surface of lead flashing sheet full strength.
- 3.7.3 Set lead flashing sheet in a solid bed of flashing cement over the stripping plies.
- 3.7.4 Roofing felts shall be extended across drain. Felts shall be cut across drain body opening and felts trimmed flush with inside face of drain body.
- 3.7.5 Trim cap sheet to clamping ring. Do not extend cap sheet under clamping ring.
- 3.7.6 Verify with roofing material manufacturer if cap sheet should extend under clamping ring.

END OF SECTION

SECTION 07560

FLUID-APPLIED ELASTOMERIC WATERPROOFING

PART I GENERAL

1.1 Work Included

- 1.1.1 High pressure water clean surface of concrete plaza deck.
- 1.1.2 Prepare horizontal joints in surface of deck and ramps to receive pedestrian waterproofing and sealant.
- 1.1.3 Prepare vertical surfaces of pre-cast concrete wall panels and concrete curbs.
- 1.1.4 Installation of color quartz pedestrian waterproofing system.

1.2 Related Sections

- 1.2.1 Sealants and Caulking – Section 07920

1.3 Submittals

- 1.3.1 Refer to Section 01300, Submittals and Section 01340, Shop Drawings, Products Data and Samples

1.4 Quality Assurance

- 1.4.1 Standards: Comply with standards specified in this section and as listed in the General Requirements.
- 1.4.2 Qualification of Manufacturer: Products used in the work included in this section shall be produced by manufacturers regularly engaged in the manufacture of similar items and with a history of successful production acceptable to the Owner.
- 1.4.3 Qualifications of Installers: Use adequate numbers of skilled workmen who are thoroughly trained and experienced in the necessary crafts and who are completely familiar with the specified requirements and the methods needed for proper performance of the work in this section. Applicator shall have at least three years' experience in installing materials of type specified and shall have successfully completed at least three projects of similar scope and complexity.
- 1.4.4 Applicator shall designate a single individual as Project Foreman, who shall be on site at all times during installation.

1.5 Environmental

- 1.5.1 Materials installation shall proceed only when weather conditions are in compliance with the applicable manufacturer's recommendations for installation and no precipitation imminent.

- 1.5.2 Installation of pedestrian waterproofing system shall not commence until ambient air temperature is 40 degrees Fahrenheit and rising, but below 110 degrees Fahrenheit surface temperature.
- 1.5.3 Modify installation of pedestrian waterproofing system.
- 1.5.4 Materials installed during adverse weather conditions shall be subject to removal and replacement.

1.6 Warranty

- 1.6.1 Refer to Section 01740, Warranties and Bonds.

PART 2 PRODUCTS

2.1 APPROVED MANUFACTURERS

- 2.1.1 Tremco
- 2.1.2 Neogard

2.2 MATERIALS - TREMCO

- 2.2.1 Vulkem 227 Sealant, two component, gun grade polyurethane joint sealant.
- 2.2.2 Vulkem Primer 191, a one-part polyurethane deck primer.
- 2.2.3 TREMprime Multi-surface Urethane Primer is a two-component, fast drying primer for concrete deck.
- 2.2.4 Vulkem 360 NF coating is a two-component self-leveling polyurethane coating used as a waterproofing base coat for pedestrian system.
- 2.2.5 Vulkem 951 NF Clear Coating is a two-component aliphatic near 100% solids polyurethane topcoat providing chemical and UV-resistant wearing surface.
- 2.2.6 Color Quartz Aggregate is a ceramic coated quartz aggregate to provide colorful non-slip wearing surface.

2.3 MATERIALS – NEOGARD

- 2.3.1 Primer: Shall be two-component epoxy primer, Neogard 70714/70715-09, application rate approximately 100 sf per gallon.
- 2.3.2 Base Coat: Shall be two-component polyurethane coating, Neogard FC7500/FC7960, application rate 80 sf per gallon.
- 2.3.3 Wear Coat: Shall be two-component polyurethane coating, Neogard FC7510/FC7961, application rate 200 sf per gallon.
- 2.3.4 Aggregate: Shall be Estes ultraviolet (UV) stable, color-coated inorganic quartz aggregate, color to be selected by Owner.

- 2.3.5 Seal Coat: Shall be two-component semi-gloss aliphatic polyuria coating, application rate 150 sf per gallon.

PART 3 EXECUTION

3.1 INSPECTION

- 3.1.1 Do not proceed with pedestrian coating system until concrete deck surface is cleaned, free of all former finishes or coatings, is dry and suitable for installation of primer.
- 3.1.2 Inspect vertical surfaces to receive deck coating system to ensure compatible for priming.

3.2 INSTALLATION - TREMCO

- 3.2.1 All two component products require missing with blade and slow speed electric drill motor.
- 3.2.2 Saw cut, grind notch or pocket at deck drains and ramp non-slip plates.
- 3.2.3 Apply primer to prepared deck and vertical surfaces to receive base detail work. Trowel or notched squeegee may be used for application.
- 3.2.4 Apply base coat of Vulkem 360NF at a rate of 55 square feet per gallon for 30 mils wet film. Backroll to evenly distribute coating.
- 3.2.5 Sloped surface at ramps and around deck drains may require base coat application of Vulkem 350R in lieu of 360NF.
- 3.2.6 Allow base coat to cure, but not to lose surface tack.
- 3.2.7 Apply top coat of Vulkem 951NF. Clear at rate of 120 square feet per gallon using short nap solvent resistant roller sleeve. Use slow to medium speed electric drill motor with squirrel cage type mixer.
- 3.2.8 Broadcast ColorQuartz aggregate to fully cover wet Vulkem 951NF – clear or flood surface. Vulkem 951NF must be wet to receive aggregate.
- 3.2.9 After cure, sweep surface to remove all loose aggregate.
- 3.2.10 Apply second application of Vulkem 951NF clear and broadcast second application of aggregate.
- 3.2.11 Backroll application of aggregate to provide smooth surface and eliminate lap lines.
- 3.2.12 After coating has cured, remove all loose and excess aggregate from surface.
- 3.2.13 Apply third coat of Vulkem 951NF – clear at rate of 120 – 150 square feet per gallon.
- 3.2.14 For base detail installation, after preparation of vertical surface place masking tape at elevation ± 5 inches above plaza deck as stop for base detail.

- 3.2.15 Install base detail with Vulkem 350R with top coat 951NF – clear.
- 3.2.16 Install Vulkem 227 sealant at notch or pocket in concrete to seal exposed edge of coating.

3.3 INSTALLATION - NEOGARD

- 3.3.1 All two component products require mixing with blade and slow speed electric drill motor.
- 3.3.2 Saw cut, grind notch or pocket at deck drains and ramp non-slip plates.
- 3.3.3 Apply primer to prepared deck and vertical surfaces to receive base detail work. Trowel or notched squeegee may be used for application.
- 3.3.4 Apply Neogard polyurethane base coat with notched squeegee followed by back roll with 3/8 inch nap chemical resistant roller to provide thickness of 20 dry mils.
- 3.3.5 Allow base coat to cure, but not to lose surface tack.
- 3.3.6 Apply aggregate coat with roller to provide coating thickness of 8-10 dry mils. Immediately broadcast color quartz aggregate into coating with rate approximately 40-50 lbs. per 100 sf or until refusal. When dry, sweep off excess aggregate.
- 3.3.7 Extend coating system to vertical surfaces of side walls, curbs, ramps and end walls, ensuring level finish at top of coat.
- 3.3.8 Apply top coat to provide semi-gloss non-slip surface at application rate of approximately 200 sf per gallon.
- 3.3.9 Total system should provide a thickness of 34-42 dry mils.

END OF SECTION

SECTION 07620

SHEET METAL FLASHING AND TRIM

PART 1 GENERAL

1.1 WORK INCLUDED

- 1.1.1 Installation of sheet metal hat channels for wall cladding panels.
- 1.1.2 Installation of sheet metal panels for wall cladding.
- 1.1.3 Installation of new sheet metal coping cap, fascia, and locking cleat.
- 1.1.4 Installation of new sheet metal counterflashing.
- 1.1.5 Installation of new sheet metal counterflashing for curbs.
- 1.1.6 Installation of new lead flashing for plumbing vent pipes.
- 1.1.7 Installation of new sheet metal gravel stop and locking cleat.
- 1.1.8 Installation of stainless steel parapet scupper drain.
- 1.1.9 Installation of stainless steel sill flashing for Penthouse door.

1.2 RELATED WORK

- 1.2.1 Rigid Board Insulation - Section 07212
- 1.2.2 Rough Carpentry - Section 06100
- 1.2.3 Built-Up Asphalt Roofing – Section 07510
- 1.2.4 Roof Specialties and Accessories - Section 07700

1.3 QUALITY ASSURANCE

- 1.3.1 Qualifications of the Manufacturer: Products used in the work of this section shall be produced by manufacturers regularly engaged in the manufacture of similar items and with a history of successful production acceptable to the consultant.
- 1.3.2 Qualifications of the Installers: Use adequate numbers of skilled workmen who are thoroughly trained and experienced in the necessary crafts and are completely familiar with the specified requirements and the methods needed for the proper performance of the work in this section.

1.4 SHOP DRAWINGS

- 1.4.1 Submit shop drawings in accordance with specifications.
- 1.4.2 Indicate material profile, jointing pattern, jointing details, fastening methods, and installation details.

1.5 SUBMITTALS

- 1.5.1 Submit to Architect a 12 inch length of each sheetmetal configuration prior to fabrication. The Contractor shall verify existing field conditions. Minor dimensional detail changes may be required to fit existing conditions.

1.6 STORAGE AND HANDLING

- 1.6.1 Store materials dry in accordance with Specifications.
- 1.6.2 Stack material to prevent twisting, bending, or abrasion.
- 1.6.3 During storage prevent material contact with any substance that would discolor or stain, including soil and water.

1.7 SCHEDULING

- 1.7.1 All new sheet metal work shall be closely coordinated with the installation of the new roofing membrane.
- 1.7.2 New sheet metal shall be installed directly after roofing work such that roofing terminations will not be left unprotected by metal.

1.8 GUARANTEE

- 1.8.1 All new materials and workmanship covering work provided under this section of the specifications shall be guaranteed in writing by the contractor to maintain all sheet metal flashing in a watertight condition without cost to the Owner for a period of two (2) years after date of final payment.

PART 2 PRODUCTS

2.1 SHEET METAL MATERIALS

- 2.1.1 Sheet metal shall be 24 gage steel coated both sides with a layer of galvalume aluminum zinc alloy (approximately 55% aluminum, 45% zinc) applied by continuous hot drip method. Minimum 0.55 ounce coated weight per square foot as determined by the triple spot test per ASTM A-792.
- 2.1.2 Coating for galvalume steel sheets shall be factory applied Kynar 500/Hylar 5000 fluoropolymer coating.
- 2.1.3 Coping Cap, Fascia, Counterflashing: Shall be formed from 24 gage galvalume steel sheets, conforming to ASTM A-446 with Kynar 500/Hylar 5000 fluoropolymer coating, color as selected by Owner.
- 2.1.4 Termination Bar: Shall be Aluminum Alloy 6061-T6, 1/8 inch x 1 1/4 inch, pre-punched for fastening 6 inches on center. Fasteners for termination bar at masonry shall be stainless steel Powers Mushroom Head Zamac Nailer (1/4 inch by 1-1/2 inch).

- 2.1.5 Gravel Stop, Fascia Extender: Shall be formed from 24 gage galvalume steel sheets, conforming to ASTM A-446 with Kynar 400/Hylar 5000 fluoropolymer coating, color as selected by Owner.
- 2.1.6 Plumbing Vent Flashing: Shall be 4 pound soft lead sheet, ASTM B 29, one piece preformed for 1-1/2 inch to 4 inch pipe with 12 inch height.
- 2.1.7 Roof Drain Flashing: Shall be 4 pound soft lead sheet, ASTM B 29, one piece preformed for 1-1/2 inch to 4 inch pipe with 12 inch height.
- 2.1.8 Flexible Vinyl Gravel Stop and Parapet Scupper Drain: Shall be Lexsuco RF flashing, 40 mil thickness, 12 inches x 50 feet. Hot air welded seams (3 inches) shall be installed at laps or seams
- 2.1.9 Parapet Scupper Drains and Penthouse Door Sill: Shall be stainless steel, minimum 26 gage, Type 302/304 Mill rolled finish No 2D, conforming to ASTM A 167, Federal Specification QQ-S-766C. Solder joints with stainless steel type flux, 50/50 solder, neutralize flux after soldering (lead free).
- 2.1.10 Parapet Scupper Frame (trim): Shall be formed from 24 gage galvalume steel sheets, conforming to ASTM A-792 with Kynar 500/Hylar 5000 fluoropolymer coating, color as selected by Owner.
- 2.1.11 Locking Cleat for Coping Cap: Shall be formed from steel sheets, 22 gage, conforming to Federal Specification AA-S-775d, ASTM A 446, G-90 (1.25 oz. zinc coated sheet).
- 2.1.12 Gravel Stop, Fascia Extender, Locking Cleat: Shall be formed from steel sheets, 22 gage, conforming to Federal Specification AA-S-775d, ASTM A 446, G-90, (1.25 oz. zinc coated sheet).
- 2.1.13 Solder for Stainless Steel: Solder joints with stainless steel type flux, 50/50 solder, neutralize flux after soldering (no lead).
- 2.1.14 Rain Collar: Shall be formed with 28 gage stainless steel.
- 2.1.15 Internal Corner, External Corner Trim and Closure Flashing for Wall Panels: Shall be formed from 24 gage galvalume steel sheets, conforming to ASTM A-792 with Kynar 500/Hylar 5000 fluoropolymer coating, color as selected by Owner.
- 2.1.16 Hat Channels for New Parapet Sheet Metal Wall Panels: Shall be McElroy Metals MAC-GIRT 1 1/2 inches x 1 1/2 inches 20 gage galvanized steel conforming to Federal Specifications AA-S-777d, ASTM A-445, G-90 C 1.25 oz zinc coated steel.
- 2.1.17 Parapet Sheet Metal Wall Panels: Shall be McElroy Metal U-Panel Kynar finish 24 gage galvalume 36 inches width, 47/64 inch ribs at 6 inches on center conforming to ASTM A-792.
- 2.1.18 Sheet Metal Wall Panel Closure and Trim: Shall be formed from 24 gage galvalume steel sheets, conforming to ASTM A-446 with Kynar 500/Hylar 5000 fluoropolymer coating, color as selected by Owner.

- 2.1.19 Equal panels manufactured by MBCI and Reynolds Manufacturing may be submitted for approval.
- 2.1.20 Blanket Insulation: Shall be glass fiber blanket, not less than 0.5 lb/cubic foot density, with UL flame spread classification of 25 or less. Blanket insulation 48 inches or 72 inches wide, TIMA 202, 2 inches providing R 7.0 with 2-inches wide continuous vapor tight edge tabs. Vinyl vapor retarder film shall be White 3.2 mil thickness providing a minimum permanence of 1.0 Perms.

2.2 ACCESSORY MATERIALS

- 2.2.1 Clamps, Straps and Supports for Expansion Joint: Shall be stainless steel.
- 2.2.2 Nails: Shall be hot-dipped galvanized ring shank nails, size as required by construction.
- 2.2.3 Fasteners: Shall be self-drilling carbon steel screws, No. 12 x 1¼" hex washer head, cadmium or zinc plated. They shall be color coordinated with a premium coating that protects against corrosion and weathering. Color shall match wall panels.
- 2.2.4 Masonry Expansion Fasteners: Shall be Powers Zamac Nailin drive anchor with Type 304 stainless steel nail ¼" x 2" (Catalog No. 2876).
- 2.2.5 One-Piece, Vibration Resistant Masonry Anchor: Shall be Powers SPIKE ¼ inch diameter manufactured from high grade carbon steel (ASTM B 633) with mushroom head at one end and a specially designed "S" shaped expansion mechanism on the working end. Pre-drill hole 1/2 inch depth greater than SPIKE length.
- 2.2.6 Sheet Metal Wall Panel Fasteners: Shall be furnished by Roofing Materials Manufacturer, or approved equal.
- 2.2.7 Primer: Shall be asphaltic primer conforming to requirements of ASTM D-41.
- 2.2.8 Caulking: Shall be as specified in Section 07920 - Sealants and Caulking.
- 2.2.9 Plastic Roofing Cement: Shall be asphalt-based, asbestos free roof cement conforming to requirements of ASTM D-2822, Type I.
- 2.2.10 Flexible Vinyl Flashing for Parapet Scupper and Gravel Stop: Shall be Lexsuco RF flashing, 40 mil thickness, 12 inches by 50 feet. Hot air welded seams (3 inches) shall be installed at laps or seams.
- 2.2.11 Flexible Vinyl Flashing for Coping Cap: Shall be Lexsuco PVC water barrier 20 mil thickness and width as required. Lap or splice adhesive shall be Lexsuco CA-103.
- 2.2.12 Exposed Roof Fasteners for Sheet Metal Wall Panels: Shall be a No. 12 cadmium or zinc plated carbon steel with a molded head and a 9/16 inch OD aluminum and bonded EPDM washer. Screw head to match color of roofing panels. Plastic caps shall not be used. Self-tapping screws shall be #12 x 7/8".

2.2.13 Masonry Anchors for Hat Channels to Support Metal Wall Panels: Shall be Powers SPIKE ¼ inch diameter manufactured from high grade carbon steel (ASTM B 633) with mushroom head at one end and a specially designed "S" shaped expansion mechanism on the working end. Pre-drill hole 1/2 inch depth greater than SPIKE length.

2.2.14 Sheet Metal Wall Panel Closure at Bottom of Panel: Shall be molded EPDM to fit panel profile \pm 1-1/2 inches width.

2.3 FABRICATION

2.3.1 Use nails, screws, bolts, or other fasteners of the same material or of material that is chemically compatible with the contacted metals.

2.3.2 Do not place dissimilar metals in direct contact with each other, nor in positions where water sheds across both metals.

2.3.3 Fabricate and install sheet metal sections in 10-foot lengths except where shorter lengths are required by construction.

2.3.4 Form sections square, true, and accurate to size, free from distortion, sharp edges, and other defects detrimental to appearance of performance.

2.3.5 Sheet metal coping cap shall be fabricated in ten (10) feet lengths to form \pm ¾ inch standing seam joints. Outside corners shall be prefabricated to form \pm 18 inches to 24 inches lengths on each side.

2.3.6 Junctures, intersections, corners, and unions of sheet metal shall be held to 18 inches legs or less. All intersections with vertical masonry walls shall be formed to include counterflashing with saw cut reglet.

PART 3 EXECUTION

3.1 INSPECTION

3.1.1 Inspect nailer areas to verify clean, smooth, free of depressions, waves, or projections and solidly supported joints.

3.1.2 Verify roof openings, pipes, sleeves, or vents through roof are solidly set.

3.1.3 Verify installation of all appropriate base flashings prior to installation of sheet metal.

3.2 INSTALLATION

3.2.1 Dissimilar metals shall be kept separated to prevent galvanic action. Preventative measures shall include separation by suitable bituminous paint.

3.2.2 Where bituminous materials are to be applied to sheet metal, the flanges shall first be primed with an asphaltic primer. The primer shall be interrupted where caulking is to be applied.

- 3.2.3 Install metal to be water and weather tight with lines, arises, and angles sharp and true with plane surfaces free of waves or buckles.
- 3.2.4 Install new counterflashing as shown in detail drawings.
- 3.2.5 New galvalume sheet metal counterflashing at masonry walls, parapets shall include 1/8 inch x 1 inch butyl tape sealant. Tape sealant shall be placed in the mating area between existing copper through-wall flashing and new sheet metal counterflashing.
- 3.2.6 Form and install new counterflashing metal as shown in detail drawings. Lap joints a minimum of 3 inches and lock joints. Do not rivet or otherwise secure joints and corners.
- 3.2.7 Apply caulking between flat surface of counterflashing and masonry, curbs etc. prior to securing.
- 3.2.8 All exposed edges of sheet metal shall be folded back, or hemmed, on concealed surfaces.
- 3.2.9 Install shop formed counterflashing in 10 foot lengths maximum with a minimum number of pieces of each straight run.
- 3.2.10 Engage formed drip edge over a continuous cleat.
- 3.2.11 Caulk top edge of counterflashing, domed to shed water.
- 3.2.12 Install pipe flashings, vent pipe flashings, etc. in accordance with detail drawings.
- 3.2.13 Install shop formed locking cleat in 10 foot lengths maximum with a minimum number of pieces of each straight run. Attach to wood blocking eight (8) inches on center.
- 3.2.14 Align coping cap sections and place over tapered wood fiberboard. Fabricate coping cap in 10 feet sections with allowance for 3/4 inch standing seam joints. Place coping cap over Lexsuco PVC water barrier membrane. Lock coping cap into locking cleat. Tong coping cap drip edge to cleat. Secure interior fascia to wood blocking through slotted opening \pm 2 feet 6 inches on center. Fabricate outside corners of one piece construction with standing seam joints.
- 3.2.15 Attach interior face to wood blocking through slotted opening.
- 3.2.16 Install Lexsuco 20 mil. PVC water barrier membrane over tapered HD wood fiberboard, extending below face of wood blocking approximately 2 inches. Complete installation of PVC membrane prior to installation of coping cap.
- 3.2.17 Miscellaneous Flanged Flashing Installation.
 - 3.2.16.1 Set flange in a solid bed of black plastic roof cement. If flange width exceeds 12 inches, secure it to wood blocking with suitable fasteners placed near each corner and at the center of each side.

- 3.2.16.2 Except at plumbing vents or other locations where flashing is turned into the top of the pipe or otherwise integrally secure against water entry, install bonnet flashing extending below and beyond edges of flashing riser, and secure mechanically to roof penetration so that the connection is watertight. Securement by sealant alone is not acceptable.
- 3.2.16.3 Strip flange with 2 plies of felt cemented in bitumen. Fit all plies snugly to the vertical flange. Extend the first ply a minimum of 6 inches beyond the edge of the flange and the second ply 6 inches beyond the previous one. Use the same type of felt and bitumen as in the roof membrane.
- 3.2.16.4 At sanitary vents lead flashing, turn the top of the sleeve into the top of the pipe a minimum of 1-1/2 inches. Prefabricated caps may be substituted.
- 3.2.18 Fabricate and install new galvalume sheet metal inside corner trim, panel closures during installation to ensure watertight construction.
- 3.2.19 Install new galvanized steel hat channels (McElroy Sub-GIRTS) mechanically attached to CMU walls, parapet with masonry fasteners.
- 3.2.20 Install new blanket insulation under new metal wall panel cladding.
- 3.2.21 Install new light gage Kynar finish galvalume wall panels.
- 3.2.22 Fabricate and install new sheet metal trim, closures, counterflashing and corner closures for wall panels.
- 3.2.23 Install new EPDM wall panel closure to seal panels.
- 3.2.24 Fabricate and install new sheet metal gravel stop and fascia extender for Penthouse structures. Fabricate in 10 feet length with ± 3 inches width cover plate at joints. Lock gravel stop drip into locking cleat full length.
- 3.2.25 Fabricate and install 26 gage stainless steel sill/counterflashing for Penthouse roof access door.

END OF SECTION

SECTION 07700

ROOF SPECIALTIES AND ACCESSORIES

PART I GENERAL

1.1 WORK INCLUDED

- 1.1.1 Walkway Protection Pads
- 1.1.2 Plumbing Vent Flashing
- 1.1.3 SBC Industries Lightning Protection Cable Flashing
- 1.1.4 S.B.C. Industries Flashing Units
- 1.1.5 Pitch Pocket System at Roof Penetrations
- 1.1.6 HVAC Condensate Drain Pipe
- 1.1.7 Roof Drain Lead Flashing
- 1.1.8 Aluminum Retrofit Roof Drain
- 1.1.9 SBC Industries Large Pipe Flashing
- 1.1.10 Install new wood blocking and walkway pad for lightning protection cable and air terminals.

1.2 RELATED SECTIONS

- 1.2.1 Rough Carpentry - Section 06100
- 1.2.2 Rigid Board Insulation - Section 07212
- 1.2.3 Built-Up Asphalt Roofing - Section 07510
- 1.2.4 Sheetmetal Flashing and Trim - Section 07620

PART 2 PRODUCTS

2.1 MATERIALS

- 2.1.1 Plumbing Vent Flashing: Shall be 4 lb. soft lead sheet, ASTM B 29 one piece, preformed for 1-1/2 inch to 4 inch pipe with 12 inch height.
- 2.1.2 Pipe and Conduit Flashing: Shall be S.B.C. Industries stainless steel flashing units for conduit flashing. Units shall be "D" series model, constructed of stainless steel,

26 gage, Type 304-2B finish.

- 2.1.3 Roof Walkway Protection and Satellite Skid Base Roof Protection Walkpads: Shall be DynaTred Plus, 32 inches x 32 inches, preformed, skid resistant boards protective surfacing as manufactured by Johns Manville, or approved equal.
- 2.1.4 Roof Drain Lead Flashing: Shall be a minimum 4LB per SF soft lead sheet conforming to ASTM B29, size 36 inches x 36 inches.
- 2.1.5 Retro-Fit Roof Drains: Shall be U-Flow Aluminum Hercules No. HD-AL-4A, or HD-AL-5A manufactured by U-Flow Roof Drain Systems, Inc. Roof drain assembly shall include cast aluminum dome strainer, cast aluminum clamping ring, U-Flow Seal for complete retrofit installation. U-Flow overflow retro-fit drain shall include a spun aluminum drain attachment to provide a roof extension at $\pm 3 \frac{1}{2}$ inches. Roof drain size varies from 3 inches to 6 inches, contractor verify.
- 2.1.6 Pitch Pan System: Shall be Weather-Tite Lockin' Pockets Inter-Locking Pitch Pocket System manufactured by WTT Systems, LLC Chagrin Falls, OH 44023 (866) 868-0883. Sizes shall be either 6 inches or 8 inches square.
- 2.1.7 Fill for Pitch Pan System: Shall be Weather-Tite Hurricane Force® Universal Sealer manufactured by WTT Systems, LLC.
- 2.1.8 Pipe Safety Stancion Flashing: Shall be SBC Industries large pipe flashing Model PL/D (2-piece divided) formed from 26 gage stainless steel, Type 304 2B finish, conforming to ASTM A240.
- 2.1.9 Lightning Protection System Ground Wire Roof Penetration: Shall be SBC Industries lightning protection cable flashing, Model CG 200 LG complete with stainless steel roof flange and stack with PVC flashing gooseneck and closed cell neoprene grommet/plug to seal cable.

PART 3 EXECUTION

3.1 INSPECTION

- 3.1.1 Verify roof membrane is prepared to receive installation of walkway protection.
- 3.1.2 Prior to installation of Weather-Tite Lockin' Pocket, the surface to receive the Pitch Pocket System should be clean, dry, free of dirt, dust, debris, oils loose and/or embedded gravel, un-adhered coatings, deteriorated membrane and other containments that may result in a surface that is not sound or is uneven. Penetrations should be prepared by wire brushing to remove loose cements, sealers, rust or other containments that would prevent a positive seal.
- 3.1.3 Verify existing roof drainage pipes are free flowing prior to installation of new roof drainage system

3.2 INSTALLATION

- 3.2.1 Core drill masonry screen walls to provide new openings for secondary drainage scupper drain.
- 3.2.2 Fabricate new Kynar finish 24 gage galvalume trim for exposed exterior scupper flange.
- 3.2.3 Clean existing roof drain, ensuring drain is free-flowing, no obstructions. Insert new retro-fit roof drain into existing roof drain. Engage drain seal and attach flange to wood blocking.
- 3.2.4 Install walkway protection pads at Penthouse stair, roof access ladders.
- 3.2.5 Flash roof drains in accordance with flashing detail.
- 3.2.6 Prime full strength lead flashing, both sides.
- 3.2.7 Install 4LB sheet lead flashing in solid bed of roofing cement over stripping plies.
- 3.2.8 Sweep loose granules from roof area to receive walk pads. Place walk pads with trowel application of roof cement on each corner and center of walk pad. Install walk pads under ladders on roof surface and at top on Penthouse roof.
- 3.2.9 Seal base of pitch pocket penetration with LPS to prevent the potential of sealer flowing through the openings.
- 3.2.10 Place pitch pocket Lockin' in desired location, mark outside edge of pocket for reference. Pitch pocket Lockin' Pocket should be placed to assure at least one (1) inch clearance from inside of Lockin' Pocket and penetration.
- 3.2.11 Apply a bead of LPS to the substrate and set Lockin' Pocket in place, apply equal pressure to assure positive contact with roof surface. Strike away all excess sealant.
- 3.2.12 Dispense Weather-Tite Hurricane Force® Universal Sealer into assembled Lockin' Pocket pitch pocket until full.
- 3.2.13 Install new 1 ¼ inches PVC HVAC condensate drain pipe on new wood sleepers. Extend pipe to roof drains.
- 3.2.14 Fabricate treated wood sleepers with clamps and walkway protection pads at ± 6 ft on center to protect PVC HVAC condensate drain pipe.
- 3.2.15 Fabricate new wood blocking/sleepers for lightning protection cable clips and air terminals.
- 3.2.16 Install new SBC Industries ground wire roof penetration flashing. Connect cable extension and insert prior to installation.

END OF SECTION

SECTION 07920

SEALANTS, CAULKING AND WATER REPELLENTS

PART 1 GENERAL

1.1 WORK INCLUDED

- 1.1.1 Caulk and seal all joints where shown on the drawings and elsewhere as required to provide a positive barrier against passage of air and passage of moisture.

1.2 RELATED WORK

- 1.2.1 Built Up Asphalt Roofing - Section 07510
- 1.2.2 Fluid Applied Elastomeric Roofing – Section 07560
- 1.2.3 Sheet Metal Flashing and Trim - Section 07620
- 1.2.4 Roof Specialties and Accessories - Section 07700

1.3 QUALITY ASSURANCE

- 1.3.1 Products used in the work shall be produced by manufacturers regularly engaged in the manufacture of similar items and with a history of successful production acceptable to the Consultant.

1.4 PRODUCT HANDLING

- 1.4.1 Deliver materials to the job site in original, unopened containers. Materials are to be stored in a protected area between 40-80 degrees F.
- 1.4.2 Do not retain on the job site any material which has exceeded the shelf life recommended by its manufacturer.
- 1.4.3 Protect all surfaces from staining or damage. All damaged work shall be repaired or replaced as directed by the Consultant and at no additional cost to the Owner.

1.5 JOB CONDITIONS

- 1.5.1 Do not apply caulking or sealants when the surface temperature is below 40 degrees F. or above 125 degrees F. Do not apply materials when surface is damp or during cold, rainy, or frosty weather.
- 1.5.2 Store all products in accordance with manufacturer's recommendations.

PART 2 PRODUCTS

2.1 SEALANTS

- 2.1.1 General: except as directed by the Consultant, use only the type of sealants described in this section.
- 2.1.2 Sealant shall be Sikaflex 1a manufactured by Sika, Inc., Dura-Link as manufactured by ChemLink, Sonolastic NP-1 as manufactured by Sonneborn or approval equal. Color shall be selected by Owner.
- 2.1.3 Sealant for Vulkem 360 NF shall be Vulkem 277, a two-component polyurethane joint sealant.

2.2 BACK-UP MATERIALS

- 2.2.1 General: Use only those back-up materials which are specifically recommended for this installation by the manufacturer of the sealant used, and which are non-absorbent and non-staining. Back-up materials must be 1-1/2 times the width of the joint.
- 2.2.2 Acceptable types include closed-cell, resilient urethane or polyvinylchloride foam; closed-cell, polyethylene foam; closed-cell sponge of vinyl or rubber, or approved equal.

2.3 CLEANER

- 2.3.1 Cleaner shall be Xylol, Toluol, Methyl ethyl ketone or commercial solvent recommended by the sealant manufacturer.

2.4 PRIMER

- 2.4.1 Shall be as recommended by sealant manufacturer.

2.5 OTHER MATERIALS

- 2.5.1 All other materials not specifically described but required for complete and proper caulking and installation of sealants shall be first quality of their respective kinds, new, and as selected by the Contractor subject to the approval of the Owner.
- 2.6.2 Backer rod shall be $\pm \frac{3}{4}$ inch in diameter waterproof soft gel.

PART 3 EXECUTION

3.1 GENERAL

- 3.1.1 Redundant sealing for precast concrete wall panels.
- 3.1.2 Examine the areas and conditions under which work will be performed. Correct conditions detrimental to the proper and timely completion of the work. Do not proceed until unsatisfactory conditions have been corrected.

3.2 PREPARATION

3.2.1 Metal Surfaces

- 3.2.1.1 Metal surface in contact with sealant shall be cleaned of temporary protective coatings, dirt oil, and grease.
- 3.2.1.2 When masking tape is used for a protective cover, remove the tape just after to applying the sealant.
- 3.2.1.3 Use only such solvents to remove protective coatings as are recommended for that purpose by the manufacturing of the equipment or metal work and which are non-staining.

3.3 INSTALLATION OF BACK-UP MATERIAL

- 3.3.1 Use only the back-up material recommended by the manufacturer of the sealant and approved by the owner for the particular installation, compressing the back-up material 25% to 50% to secure a positive and secure fit. When using back-up of tube or rod stock, avoid lengthwise stretching of the material. Do not twist or braid hose, or rod back-up stock.

3.4 JOINT DESIGN

- 3.4.1 Joint depth shall never be greater than width.

Joint width is 1/4 inch to 1/2 inch wide sealant depth at midpoint is to be 1/4 inch.

- 3.4.2 Where depth of joint does not permit the use of back-up material then a bond breaker strip must be installed to prevent three point bonding.

3.5 INSTALLATION OF SEALANTS

- 3.5.1 General: Prior to the start of installation of each joint, verify the joint type according to the details in the drawings and verify that the required proportion of width of joint to depth of joint has been secured.
- 3.5.2 Masking: Thoroughly and completely mask all joints where the appearance of sealant on adjacent surface would be objectionable.
- 3.5.3 Installation of sealant: Install the sealant in strict accordance with the manufacturer's recommendations as approved by the Owner, thoroughly filling all joints to the recommended depth.
- 3.5.4 Tooling: Tool all joints to a slightly concave profile that will shed water. Tooling to be done immediately after sealant application.

3.6 CLEAN UP

- 3.6.1 Remove masking tape immediately after joints have been tooled.

- 3.6.2 Keep adjacent surfaces clean and free from sealant as the installation progresses. Use solvent or cleaning agent as recommended by the sealant manufacturer.

END OF SECTION