

PROJECT MANUAL

FOR

Fire Alarm System Upgrades for
Coker Life Science and Earth Water
Science Buildings



University of South Carolina
743 Greene Street
Columbia, SC 29208



Sims Group Engineers, Inc.
800 Columbiana Drive, Suite 208
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Project Number: H27-6077 -

Bid Set
Jan. 31, 2013

TABLE OF CONTENTS

PROJECT NUMBER: H27-6077

**PROJECT NAME: Fire Alarm System Upgrades – Coker Life
Science and Earth Water Science Buildings**

SECTION

Table of Contents	2
Invitation for Bids (SE-310)	1
Instructions to Bidders (AIA Document A701-1997 Edition*)	1
00201-OSE Standard Supplemental Instructions to Bidders	10
Bid Bond (AIA A310)	1
Standard Bid Form (SE-330)	6
Standard Form of Agreement between Owner and Contractor (AIA Document A101 – 2007 Edition*)	1
00501-OSE Standard Modifications to AIA A101 – 2007 Edition	3
General Conditions of the Contract for Construction (AIA Document A201 – 2007 Edition*)	1
00811-Standard Supplementary Conditions (Supplement to AIA Document A201-2007 Edition General Conditions of the Contract)	25
USC Supplemental Conditions	3
Performance Bond (SE-355)	2
Labor and Material Payment Bond (SE-357)	2
Contractor’s One Year Guarantee	1

TECHNICAL SPECIFICATIONS

(List the technical specifications using the same Divisions numbers and titles as shown on the individual technical specification sections. Provide the issue date and revision number for each section.)

01000 General Requirements

01010 Special Conditions

01068 Definitions

01150 Schedules, Reports, & Payments

01300 Submittals

01700 Project Close-out

260500 Electrical Basic Materials and Methods

260529 Seismic

283100 Fire Alarm

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SE-310 REQUEST FOR ADVERTISEMENT

2011 Edition
Rev. 7/20/2011

PROJECT NAME: Fire Alarm System Upgrades – Coker Life Science and Earth Water Science Buildings

PROJECT NUMBER: H27-6077-

PROJECT LOCATION: 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 - \$1,000,000

DESCRIPTION OF PROJECT: Fire Alarm System Upgrades for Coker Life Science Building and Earth Water Science Building – Project scope includes the demolition of existing fire alarm system and the installation of a new fire alarm system. The existing fire alarm systems shall remain in operation until the new systems have been certified ready for use. Small and minority business participation is encouraged.

A/E NAME: Sims Group Engineers, Inc.

A/E CONTACT: Chris Partrich, PE

A/E ADDRESS: Street/PO Box: 800 Columbiana Drive, Suite 208

City: Irmo

State: SC ZIP: 29063-

EMAIL: chris@simsgroupusa.com

TELEPHONE: 803 765-1007

FAX: 803 765-1030

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

BIDDING DOCUMENTS/PLANS MAY BE OBTAINED FROM: <http://purchasing.sc.edu>. Bidders are responsible for obtaining all updates to bidding documents from USC Purchasing Website.

PLAN DEPOSIT AMOUNT: None **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):*

<http://purchasing.sc.edu> (See Facilities/Construction Solicitations & Awards) Bidders are responsible for obtaining all updates to bidding documents from USC purchasing website.

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

DATE: 2/27/13

TIME: 10am

PLACE: 743 Greene Street, Columbia, SC – Conference Room 53

AGENCY: University of South Carolina, Facilities Business and Finance

NAME OF AGENCY PROCUREMENT OFFICER: Juaquana Brookins

ADDRESS: Street/PO Box: 743 Greene Street

City: Columbia

State: SC ZIP: 29208-

EMAIL: jbrookins@fmc.sc.edu

TELEPHONE: 803 777-3596

FAX: 803 777-7334

BID CLOSING DATE: 3/12/13 **TIME:** 2pm **LOCATION:** 743 Greene St. Columbia, SC – Conference Room 53

BID DELIVERY ADDRESSES:

HAND-DELIVERY:

Attn: Juaquana Brookins

University of South Carolina

743 Greene Street

Columbia, SC 29208

MAIL SERVICE:

Attn: Juaquana Brookins

University of South Carolina

743 Greene Street

Columbia, SC 29208

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

SE-310
REQUEST FOR ADVERTISEMENT

2011 Edition
Rev. 7/20/2011

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

DATE: _____

AIA Document A701 – 1997 Edition

Instructions to Bidders

Original AIA Document on file at the office of
Facilities Planning and Construction
743 Greene Street, Columbia, SC

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

OWNER: University of South Carolina**PROJECT NUMBER:** H27-6077**PROJECT NAME:** Fire Alarm System Upgrades – Coker Life Science and Earth Water Science Buildings**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.

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

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

OSE FORM 00201

STANDARD SUPPLEMENTAL INSTRUCTIONS TO BIDDERS

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

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

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.

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

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 shall 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.

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

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.

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

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-responsive

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: Lobby

Building Where Posted: Facilities Service Center

Address of Building: 743 Greene Street, Columbia, SC

WEB site address (if applicable): <http://purchasing.sc.edu> (See Facilities/Construction Solicitations & Awards)

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

Original AIA Document on file at the office of
Facilities Planning and Construction
743 Greene Street, Columbia, SC

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

(Owner's Name)

FOR PROJECT: **PROJECT NAME** Fire Alarm System Upgrades - Coker/EWS Buildings

PROJECT NUMBER H27-6077

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 fire alarm systems and replace with new fire alarm systems. Old fire alarm systems to remain operational until new systems have been installed and certified ready to use.

_____, which sum is hereafter called the Base Bid.

(Bidder - insert Base Bid Amount on line above)

SE-330 – LUMP SUM BID BID FORM

2011 Edition
Rev. 9/21/2011

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

ALTERNATE # 1 (Brief Description): Contractor shall provide maintenance and testing twice during warranty period (at 6 months & 12 months of service) including examination, adjustment and cleaning of all detectors, manual fire alarm stations, control panels, power supplies, relays, waterflow switches and all accessories of the fire alarm system. Test each circuit in the fire alarm system. And test each smoke detector in accordance with NFPA 72 requirements.

☐ 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): _____

☐ 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): _____

☐ ADD TO or ☐ DEDUCT FROM BASE BID: _____

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

**SE-330 – LUMP SUM BID
BID FORM**

2011 Edition
Rev. 9/21/2011

§ 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
None Required		
ALTERNATE 1		
ALTERNATE 2		
ALTERNATE 3		

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 **180** 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 **\$250.00** 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**

2011 Edition
Rev. 9/21/2011

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 Edition
Standard Form of Agreement between
Owner and Contractor

Original AIA Document on file at the office of
Facilities Planning and Construction
743 Greene Street, Columbia, SC

OSE FORM 00501

STANDARD MODIFICATIONS TO AGREEMENT BETWEEN OWNER AND CONTRACTOR

OWNER: University of South Carolina

PROJECT NUMBER: H27-6077

PROJECT NAME:

Fire Alarm System Upgrades-Coker Life Science and Earth Water Science Bldgs

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: Tom Opal

Title: Senior Project Manager

Address: 743 Greene Street, Columbia, SC 29208

Telephone: 803 777-7076 **FAX:** _____

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: Pete Fisher

Title: Project Manager

Address: 743 Greene Street, Columbia, SC 29208

Telephone: 803 777-9346 **FAX:** _____

Email: pfisher@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: _____

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: _____

Title: _____

Address: _____

Telephone: _____ **FAX:** _____

Email: _____

2.14. *Add the following Section 8.6.1:*

8.6.1 The Architect's representative:

Name: Chris Partrich, PE, LEED AP

Title: President, Sims Group Engineers, Inc.

Address: 800 Columbiana Drive, Suite 208, Irmo, SC 29063

Telephone: 803 765-1007 **FAX:** 803 765-1030

Email: chris@simgroupusa.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 Edition
General Conditions of the
Contract for Construction

Original AIA Document on file at the office of
Facilities Planning and Construction
743 Greene Street, Columbia, SC

OSE FORM 00811

STANDARD SUPPLEMENTARY CONDITIONS

OWNER: University of South Carolina

PROJECT NUMBER: H27-6077

PROJECT NAME: Fire Alarm System Upgrades-Coker Life Science and EWS Buildings

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

OSE FORM 00811**STANDARD SUPPLEMENTARY CONDITIONS**

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."*

OSE FORM 00811**STANDARD SUPPLEMENTARY CONDITIONS**

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.

OSE FORM 00811**STANDARD SUPPLEMENTARY CONDITIONS**

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

OSE FORM 00811**STANDARD SUPPLEMENTARY CONDITIONS**

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;

OSE FORM 00811**STANDARD SUPPLEMENTARY CONDITIONS**

- .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:

OSE FORM 00811**STANDARD SUPPLEMENTARY CONDITIONS**

- .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.

OSE FORM 00811**STANDARD SUPPLEMENTARY CONDITIONS**

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.

OSE FORM 00811**STANDARD SUPPLEMENTARY CONDITIONS**

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

OSE FORM 00811**STANDARD SUPPLEMENTARY CONDITIONS**

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.

OSE FORM 00811**STANDARD SUPPLEMENTARY CONDITIONS**

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."

OSE FORM 00811**STANDARD SUPPLEMENTARY CONDITIONS****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

OSE FORM 00811**STANDARD SUPPLEMENTARY CONDITIONS**

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.

OSE FORM 00811**STANDARD SUPPLEMENTARY CONDITIONS**

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.

OSE FORM 00811**STANDARD SUPPLEMENTARY CONDITIONS**

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.

OSE FORM 00811**STANDARD SUPPLEMENTARY CONDITIONS**

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.

OSE FORM 00811**STANDARD SUPPLEMENTARY CONDITIONS**

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

OSE FORM 00811**STANDARD SUPPLEMENTARY CONDITIONS**

- .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;

OSE FORM 00811**STANDARD SUPPLEMENTARY CONDITIONS**

- .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.

OSE FORM 00811**STANDARD SUPPLEMENTARY CONDITIONS**

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)

OSE FORM 00811**STANDARD SUPPLEMENTARY CONDITIONS**

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.

OSE FORM 00811**STANDARD SUPPLEMENTARY CONDITIONS**

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: _____

OSE FORM 00811**STANDARD SUPPLEMENTARY CONDITIONS**

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)*

None

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

Provide a complete, full-size set of record installation drawings.

Provide a complete electronic CAD set of record installation drawings.

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)*

All submittals listed in Specification Sections 260500, 260529, and 283100 shall be submitted to the USC Fire Marshall and Sims Group Engineers, Inc., for review and approval prior to the start of installation. Provide copies as required in Spec Section 260500, 1-10 Submittals.

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)*

None

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

Clean up areas daily.

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 1 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 mats on 12" coarse, chipped, hardwood base. Mulch and logging mats shall be supplemented throughout the project to keep

Updated: July 15, 2011

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, SC 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: Fire Alarm System Upgrades-Coker Life Science and Earth Water Science Buildings

State Project Number: H27-6077

Brief Description of Awarded Work, as found on the SE-330, Bid Form: Remove existing fire alarm systems and replace with new fire alarm systems. Old fire alarm systems to remain operational until new systems have been installed and certified ready to use.

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

Name: Sims Group Engineers, Inc.

Address: 800 Columbiana Drive, Suite 208, Irmo, SC 29063

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 be 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: University of South Carolina

Address: 743 Greene Street
Columbia, SC 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

Project Name: Fire Alarm System Upgrade-Coker Life Science and Earth Water Science Buildings

Project Number: H27-6077

Brief Description of Awarded Work, as found on the SE-330, Bid Form: Remove existing Fire Alarm Systems and install new fire alarm systems. Old Fire Alarm Systems to remain operational until new systems have been installed and certified operational.

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

Name: Sims Group Engineers, Inc.

Address: 800 Columbiana Drive, Suite 208, Irmo, SC 29063

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.

Project Name: Fire Alarm System Upgrades –
Coker Life Science and Earth Water Science Buildings

Project Number: H27-6077

University of South Carolina

CONTRACTOR'S ONE YEAR GUARANTEE

STATE OF _____

COUNTY OF _____

WE _____
as General Contractor on the above-named project, do hereby guarantee that all work executed under the requirements of the Contract Documents shall be free from defects due to faulty materials and /or workmanship for a period of one (1) year from date of acceptance of the work by the Owner and/or Architect/Engineer; and hereby agree to remedy defects due to faulty materials and/or workmanship, and pay for any damage resulting wherefrom, at no cost to the Owner, provided; however, that the following are excluded from this guarantee;

Defects or failures resulting from abuse by Owner.

Damage caused by fire, tornado, hail, hurricane, acts of God, wars, riots, or civil commotion.

[Name of Contracting Firm]

*By _____

Title _____

*Must be executed by an office of the Contracting Firm.

SWORN TO before me this
_____ day of _____, 2____ (seal)

_____ State

My commission expires _____

SECTION 01000 – GENERAL REQUIREMENTS

1.0 GENERAL

A. The provisions of the Instruction to Bidders and of the Special Conditions, General Conditions, and Supplementary Conditions, Parts I and II of these Specifications shall govern the work under this Division or Section the same as if incorporated herein.

1.1 QUALITY ASSURANCE

Qualifications of Manufacturers: 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 Engineer/Engineer.

Qualifications of Workmen: Use adequate numbers of workmen who are thoroughly trained and experienced in the necessary skills, completely familiar with the manufacturer's recommended methods of application and completely familiar with the specific requirements of the work.

Codes and Standards: Comply with 2009 International Building Code, 2009 International Fire Code, 2008 National Electric Code, and other Governing Local Codes and Standard. Comply also with all instructions and recommendations from the manufacturers of various materials. Notify Engineer immediately of any systems which do not comply to the Standard Building Code or any location codes that may be more stringent.

1.2 PRODUCT HANDLING

Delivery and Storage:

Deliver all packaged materials to the job site in their original unopened containers with all labels intact and legible at time of inspection.

Store all materials in an approved manner, protecting from contact with soil and from exposure to the elements. Limit the amount of weight of materials placed on roofs or floors not on grade at anytime making sure stored materials are DISTRIBUTED OVER LARGE AREAS AND NOT CONCENTRATED.

Replacements: In the event of damage, immediately make all repairs and replacements necessary to the approval of the Engineer/Engineer and at no additional cost to the Owner.

1.3 SCHEDULING AND COORDINATION

All work shall be scheduled and coordinated with the Owner.

1.4 MATERIAL AND WORKMANSHIP

Fitting Job Conditions: The Contractor and material suppliers shall be responsible for inspecting all job conditions affecting the installation of an item and taking all field measurements required prior to fabrication of an item to insure that the item concerned will integrate properly with all adjacent materials and fit all other conditions as they exist or will exist in the finished project.

1.5 CODES AND LAWS

All construction will comply with the latest edition of the 2009 International Building Code, 2009 International Fire Code, 2008 National Electrical Code and all general and permanent Laws of the State of South Carolina. The University places major emphasis on the safety and well-being of

its students, faculty and staff. It is the first duty of supervisors and all other persons in authority to provide for safety and fire prevention.

1.6 OCCUPATIONAL SAFETY AND HEALTH

The construction shall be governed, at all times, by applicable provisions of the Federal Law(s), including but not limited to the following, as amended to date.

Williams-Steiger Occupational Safety and Health Act of 1970, Public Law 91-596.

Part 1910 - Occupational Safety and Health Standards, Chapter XVII of Title 29, Code of Federal Regulations; and

Part 1518 - Safety and Health Regulations for Construction, Chapter)GII of Title 29, Code of Federal Regulations.

END OF SECTION

SECTION 01010 - SPECIAL CONDITIONS

1.0 GENERAL

1.1 SCOPE: This section list known special conditions that exist or pertain to the Contract Documents.

1.2 SPECIAL CONDITIONS

A. ASBESTOS:

It is the intent of the plans and specifications to specify only non-asbestos containing materials. Asbestos is defined as follows:

ASBESTOS - The asbestiforin varieties of serpentine (chrysotile), rie bekite (crocidolite), cummingtonite grunerite (amosite), anthrophyllite, actinolite, and tremolite.

Materials containing any form of asbestos in any percentages shall not be used. THESE PRODUCTS SHALL BE ASBESTOS FREE. Suppliers supplying materials containing asbestos in any form or percentages shall be responsible for the removal of these materials if delivered or installed and any cleanup required.

B. HEAVY METALS:

It is the intent of these plans and specifications to specify materials containing NO HEAVY METALS BY DESIGN. Heavy metals are defined as mercury, lead and other metals known to cause bodily harm. Lead products may be used in roofing applications. Lead soldering for any water or waste water is not allowed. Products containing heavy metals may be used only with the written permission of the engineer. Cleanup for products, containing heavy metals, installed without written permission shall be at the contractor's expense. Installation of new non-heavy metal products shall be at no cost to the owner.

C. All three buildings will be occupied during construction. The Contractor, I-Es Subcontractors and/or Personnel Employed by either shall:

1. Maintain a safe work site at all times.
2. Schedule all work with the Owner.
3. Not engage in conversation with students or faculty.
4. Schedule unreasonably noisy work for after hours, weekends, or during times when classrooms are not in use.
5. Project staging area(s) shall be approved by the owner.

END OF SECTION

SECTION 01068 - DEFINITIONS

1.0 GENERAL

1.1 RELATED DOCUMENTS

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

1.2 DEFINITIONS:

A. General Explanation: A substantial amount of specification language constitutes definitions for terms found in other contract documents, including the drawings which must be recognized as diagrammatic in nature and not completely descriptive of requirements indicated thereon. Certain terms used in the contract documents are defined generally in this article. Definitions and explanations of this Section are not necessarily either complete or exclusive, but are general for the work to extent not stated more explicitly in another provision of the contract documents.

B. General Requirements: The provisions or requirements of Division I sections, General Requirements apply to entire work of Contract and, where so indicated, to other elements of work which are included in the project.

C. Indicated: The term "indicated" is a cross-reference to details, notes of schedules on the drawings, to other paragraphs or schedules in the specs, and to similar means of recording requirements in the contract documents. Where terms such as "shown", "noted", "scheduled", and "specified" are used in lieu of "indicated", it is for purpose of helping reader locate cross-reference, and no limitation of location is intended except as specifically noted.

D. Approval: Where used in conjunction with Engineer's response to submittals, requests, applications, inquiries, reports and claims by Contractor, the meaning of term "approved" will be held to limitations of Engineer's responsibilities and duties as specified in General and Supplementary Conditions. In no case will "approval" by engineer be interpreted as a release of Contractor from responsibilities to fulfill requirements of the contract documents.

E. Provide: Except as otherwise defined in greater detail, term "provide" means furnish and install, complete and ready for intended use, as applicable in each instance.

F. Furnish: Except as otherwise defined in greater detail, term "furnish" is used to mean supply and deliver to project site, ready for unloading, unpacking, assembly, installation, etc., as applicable in each instance.

G. Install: Except as otherwise defined in greater detail, term "install" is used to describe operations at project site including unloading, unpacking, assembly, erection, placing, anchoring, applying, working to dimension, finishing, curing protecting, cleaning and similar operations, as applicable in each instance.

H. Installer: The entity (person or firm) engaged by the Contractor or its subcontractor or subcontractor for the performance of a particular unit of work at the project site, including installation, erection, application and similar required operations. It is a general requirements that such entities (Installers) be expert in operations they are engaged to perform.

I. Testing Laboratory: An independent entity engaged to perform specific inspections or tests of the work, either at project site or elsewhere; and to report and (if required) interpret results of those inspections or tests.

J. Minimum Quality/Quantity: In every instance, quality level or quantity shown. or specified is intended as minimum for the work to be performed or provided. Except as otherwise specifically indicated, actual work may either comply exactly with that minimum (within specified tolerances), or may exceed that minimum within reasonable limits. In complying with requirements, indicated numeric values are either minimum or maximums as noted or as appropriate for context of requirements. Refer instances of uncertainty to Engineer for decision before proceeding.

K. Industry Standards: Applicable standards of construction industry have same force and effect on performance of the work as if copies directly into contract documents or bound and published therewith. Standards referenced in contract documents or in governing regulations have precedence over non-referenced standards, insofar as different standards may contain overlapping or conflicting requirements. Comply with standards in effect as of date of contract documents.

L. Abbreviations: Where abbreviations or acronyms are used in contract documents, they mean the well recognized name of entity in building construction industry; refer uncertainties to Engineer before proceeding.

2.0 PRODUCTS (not applicable)

3.0 EXECUTION (not applicable)

END OF SECTION

SECTION 01150 - SCHEDULES, REPORTS & PAYMENTS

1.0 GENERAL

1.1 RELATED DOCUMENTS:

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division - I Specification sections applying to this section.

1.2 COORDINATION:

A. Contractor is to closely coordinate project schedule and construction meetings with Lisa Groft of USC Aiken. A pre-construction meeting will be held with all parties involved to work out a schedule of work so both parties can accomplish their respected responsibilities.

1.3 PROGRESS MEETINGS, REPORTING:

A. Initial Progress Meeting: Schedule initial progress meeting, recognized as "Pre-Construction Meeting", for a date not more than 15 days after date of commence of the work. Use it as an organizational meeting and review responsibilities and personnel assignments.

1.4 PAYMENT REQUESTS:

A. General: Except as otherwise indicated, sequence of progress payments is to be regular, and each must be consistent with previous applications and payments. It is recognized that certain applications involve extra requirements, including initial application, application at times of substantial completion, and final payment application.

B. Payment Application Times: The "date" for each "progress payment" and the period of construction work covered by each payment request is period indicated in Owner-Contractor Agreement or, if none is indicated therein, it is period ending 15 days prior to date for each progress payment, and starting day following end of the preceding period.

C. Application Preparation: Except as otherwise indicated, complete every entry provided for on the form, including notarization and execution by authorized persons. Engineer will return incomplete applications without taking action. Entries must match current data of schedule of values and progress schedule and report. Listing must include amounts of change orders issued prior to first day of the "period of construction" covered by application.

D. Initial Payment Application: The principal administrative actions and submittals which must precede or coincide with submittal of first payment application can be summarized as follows, but not necessarily by way of limitation.

- 1 . Listing of subcontractors and principal suppliers and fabricators.
2. Schedule of values.
- 3 . Progress Schedule (preliminary if not final).
4. Schedule of principal products.
5. Schedule of unit prices.

6. Schedule of submittals (preliminary if not final).
7. Listing of Contractor's staff assignments and principal consultants.
8. Copies of acquired building permits and similar authorizations, licenses from governing authorities for current performance of the work.
9. Initial progress report, including report of pre-construction meeting.

E. Final Payment Application: The administration actions and submittals which must precede or coincide with submittal of final payment application can be summarized as follows, but not necessarily by way of limitation:

1. Completion of project close-out requirements.
2. Completion of items specified for completion beyond time of substantial completion (regardless of whether special payment application was previously made).
3. Assurance, satisfactory to Owner, that unsettled claims will be settled and that work not actually completed and accepted will be complete without undue delay.
4. Transmittal of required project construction records to Owner.
5. Certified property surety.
6. Proof, satisfactory to Owner, that taxes, fees and similar obligations of contractor have been paid.
7. Removal of temporary facilities, services, surplus materials, rubbish and similar elements.
8. Change over of door locks & other Contractor's access provisions to the Owner's property.
9. Consent of surety for final payment.

END OF SECTION

SECTION –1300 - SUBMITTALS

RELATED DOCUMENTS:

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

1.1 DESCRIPTION OF REQUIREMENTS:

- A. The types of submittal requirements specified in this section include shop drawings as required by Section 260500, 260529, and 283100.

1.2 ACTION ON SUBMITTALS:

- A. Engineer's Action: Where action and return is required or requested Engineer will review each submittal, mark with "action", and where possible return within 2 weeks of receipt. Where submittal must be held for coordination, Contractor will be so advised by Engineer without delay. In all cases the contractor shall specify a time frame for the return of submittals.
- B. Action Stamp: Engineer's action stamp, for use of submittals to be returned to Contract, if self-explanatory as marked.

2.0 PRODUCTS (not applicable).

3.0 EXECUTION (not applicable).

END OF SECTION

SECTION 01700 – PROJECT CLOSE-OUT

1.0 GENERAL

1.1 RELATED DOCUMENTS:

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

1.2 DESCRIPTION OF REQUIREMENTS:

- A. Definitions: Close-out is hereby defined to include general requirements near end of Contract Time, in preparation for final acceptance, final payment, normal termination of contract, occupancy by Owner and similar actions evidencing completion of the work. Specific requirements for individual units of work are specified in sections of Divisions 26 through 28. Time of close-out is directly related to "Substantial Completion" and therefore may be either a single time period for entire work or a series of time periods for individual parts of the work which have been certified as substantially complete at different dates. That time variation shall be applicable to other provisions of this section.

1.3 PREREQUISITES TO FINAL ACCEPTANCE:

- A. General: Prior to requesting Engineer's final inspection for certification of final acceptance and final payment, as required by General Conditions, complete the following and list known exceptions in request:
 - 1. Submit final payment request with final releases and supporting documentation not previously submitted and accepted.
 - 2. Submit updated final statement, accounting for additional (final) changes to Contract Sum.
 - 3. Submit certified copy of Engineer's final punch-list of itemized work to be completed or corrected, stating that each item has been completed or otherwise resolved for acceptance, endorsed and dated by Engineer. Punch-list items shall be completed within 15 days.
 - 4. Submit Consent of Surety.
 - 5. Submit final liquidated damages settlement statement, acceptable to Owner.
 - 6. Revise and resubmit evidence of final, continuing insurance coverage, Complying with insurance requirements.
- B. Re-inspection Procedures: Upon receipt of Contractor's notice that work has been completed, including punch-list items resulting from earlier inspections, and excepting incomplete items delayed because of acceptable circumstances, Engineer will reinspect the work. Upon completion of Re-inspection, Engineer will either prepare certificate of final acceptance or advise Contractor of work not completed or obligation not fulfilled as required for final acceptance. If necessary, procedure will be repeated.

The Engineer and Owner will each make one (1) visit to the site for final inspection of the work to prepare punch list of discrepancies. A second visit will be made to the site to review the punch list after being notified, in writing, by Contractor that 100% of the punch list items have been taken care of. If there are remaining items on the punch list that are incomplete because of late delivery, the Contractor shall itemize these in detail. With proper documentation, these items may be excused from penalty outlined below.

SECTION 01700 – PROJECT CLOSE-OUT

If Engineer or Owner finds that punch list items that have been listed have not been corrected to their satisfaction and additional visits to the job must be made to again check off these punch list items, the cost of the Owner, or Engineer's time and travel will be deducted from the contract price at final payment. The rate of charges will be \$120.00 per man-hour and \$.50 cents per mile traveled to and from job site.

1.4 RECORD DOCUMENT SUBMITTALS:

- A. General: Specific requirements for record documents are indicated in individual sections of these specifications. Other requirements are indicated in General Conditions. General submittal requirements are indicated in "Submittals" sections. Do not use record documents for construction purposes, protect from deterioration and loss in a secure, fire-resistive location, provide access to record documents for Engineer's reference during normal working hours.

2.0 PRODUCTS (Not applicable)

3.0 EXECUTION:

3.1 FINAL CLEANING EACH PHASE OF WORK:

- A. General: Special cleaning for specific units of work is specified in sections of Division 2 through 16. General cleaning during progress of work is specified in General Conditions and as temporary services in "Temporary Facilities" section of this division. Provide final cleaning of work, at time indicated, consisting of cleaning each surface or unit of work to normal "clean" condition expected for a first-class building cleaning and maintenance program. Comply with manufacturer's instructions for cleaning operations. The following are examples, but not by way of limitation, of cleaning levels required.
 - 1. Remove labels which are not required as permanent labels.
 - 2. Clean exposed exterior and interior hard-surface finishes, to a dirt-free condition, free of dust, stains, films and similar noticeable distracting substances. Except as otherwise indicated, avoid disturbance of natural weathering of exterior surfaces. Restore reflective surfaces to original reflective condition.
 - 3. Wipe surfaces of electrical equipment clean; remove excess lubrication and other substances.
 - 4. Remove debris and surface dust from limited-access spaces including roofs, plenum, shafts, trenches, equipment vaults, manholes, attics and similar spaces.
 - 5. Clean project site of litter and foreign substances. Sweep paved areas to a broom-clean condition; remove stains, petrochemical spills and other foreign deposits. Rake grounds which are neither planted nor paved, to a smooth, even-textured surface.
- B. Removal of Protection: Except as otherwise indicated or requested by Engineer, remove temporary protection devices and facilities which were installed during course of the work to protect previously completed work during remainder of construction period.
- C. Compliances: Comply with safety standards and governing regulations for cleaning operations. Do not burn waste materials at this site, or bury debris or excess materials on Owner's property, or discharge volatile or harmful or dangerous materials into drainage systems; remove waste materials from site and dispose of in a lawful manner.

SECTION 01700 – PROJECT CLOSE-OUT

THE FOLLOWING IS A COLLATION OF ITEMS REQUIRED FROM THE CONTRACTOR PRIOR TO CLOSE-OUT OF THE PROJECT. CONTRACTOR IS RESPONSIBLE FOR ALL ITEMS REQUESTED BY CONTRACT DOCUMENTS AND MAY NOT BE LIMITED TO THIS LIST.

1. Contractor's One Year Guarantee of Work Performed.
2. Contractor certification that system has been installed and certificated per Contract Documents.
3. One complete copy of record drawings.
4. One complete project manual with shop drawings.

END OF SECTION

SECTION 260500 - ELECTRICAL BASIC MATERIALS AND METHODS

PART 1 - GENERAL REQUIREMENTS

1-01 SCOPE OF WORK

WORK INCLUDED: Furnish all necessary labor, material, plant and equipment, including materials and equipment not specifically mentioned but necessary to complete the work in a neat, correct, and workmanlike manner, to include:

- 1) Complete branch circuit wiring system for equipment and outlets.
- 2) Hangers and Supports for Electrical Systems, see Section 260529.
- 3) Fire Alarm System, see Section 283100.

SPECIAL NOTE: The provisions of the Instructions to Bidders, General Conditions, Supplementary General Conditions and all applicable requirements of Division 1 shall govern the work under this Division the same as if incorporated herein.

ALTERNATE No. 1: As part of Alternate No. 1, the Contractor shall provide the following maintenance and testing, once at the 6-month point and a second time at the twelve-month point of the warranty period. The date of the two maintenance and testing sessions shall be scheduled as part of the fire alarm system closeout documents and shall be coordinated with the Owner and the Engineer prior to acceptance of the fire alarm system.

- a. Examination, adjustment and cleaning of all detectors, manual fire alarm stations, control panels, power supplies, relays, waterflow switches and all accessories of the fire alarm system.
- b. Each circuit in the fire alarm system shall be tested semiannually.
- c. Each smoke detector shall be tested in accordance with the requirements of NFPA 72.

1-02 EQUIPMENT WIRING

CONTROL WIRING: Raceways, wiring, and control devices (thermostats, pressure switches, program clocks, etc) for HVAC control systems and other mechanical and plumbing systems shall be furnished and installed by the Owner's Controls Contractor (Johnson Controls) under a separate contract, unless otherwise indicated on the drawings or specified in this Division.

1-03 EXISTING CONDITIONS

The Contractor will be held responsible for having visited the site and having familiarized himself with the existing conditions prior to submitting his bid.

1-04 COORDINATION

OTHER TRADES: All work under this Section shall be coordinated with other trades to insure proper location of outlets and equipment connections, and to minimize conflicts with structural members, duct work, piping, etc. Conflicts between equipment and/or material locations shall be corrected as directed by the Architect-Engineer at no additional cost to the Owner.

1-05 CODES AND PERMITS

Installation and materials shall be in accordance with the applicable versions of the National Electrical Code, the International Building Code, and all local codes. Apply and pay for all permits and fees required for this construction.

1-06 DRAWINGS

The drawings and specifications shall be considered as complementary, one to the other, so that materials and labor indicated, called for, or implied by either shall be furnished and installed as if required by both. Where a disagreement exists between the plans and specifications, the item or arrangements of better quality, greater quantity, or higher cost shall be included in the base bid. Any discrepancies between the drawings, specifications, and field conditions shall be resolved with the Engineer prior to commencing work. All agreements shall be verified in writing.

RECORD DRAWINGS: The Contractor shall maintain one set of clean blueprints for "RECORD" drawings. All changes, revisions, or modifications to the project shall be recorded daily on these drawings with redline pencil. Upon completion of the project, these redline drawings shall be turned over to the Engineer for preparation of final Record Drawings.

1-07 MAINTENANCE AND OPERATING MANUALS

The Contractor shall furnish the Owner two (2) complete maintenance and operating manuals for each piece of equipment and material furnished under this project. These manuals shall be bound in hard cover binders with tabs for each section item or piece of equipment. The manuals shall be furnished to the Engineer prior to the final observation, and final acceptance shall not be given until the Owner's maintenance personnel are instructed in maintenance and operation of all systems.

1-08 GUARANTEE

All materials and labor furnished under this Section of the specifications shall be guaranteed by the Contractor to be free from defects for a period of one year from the date of acceptance. The Contractor shall repair or replace any deficiencies reported in the guarantee period promptly after notification, without any additional compensation from the Owner. Lamps are excluded from this warranty, except that all lamps shall be operational on the date of acceptance.

1-09 MATERIALS

UL LISTING: All materials shall be listed by Underwriter's Laboratories, or an approved equal testing laboratory, and shall bear the "UL" Label, where applicable.

SUBSTITUTIONS: Specific reference in the specifications to any article, device, product, material, fixture, form or type of construction, etc., by name, make or catalog number, with or without the words "or equal" shall be interpreted as establishing a standard of quality and shall not be construed as limiting competition and the Contractor in such cases may, at his option, use any article, device, product, material, fixture, form or type of construction, which in the judgement of the Architect-Engineer, expressed in writing prior to bidding as specified below, is equal to that herein named.

Requests to substitute materials or equipment considered by the Contractor as equal to those specified shall be submitted for review to the Architect-Engineer ten (10) days before bids are taken. Requests shall be accompanied by samples, descriptive literature, and engineering information, as necessary to fully identify and appraise the product. No increase in the contract sum will be considered when requests are not accepted. If the item is found to be equal, the Architect-Engineer will issue an Addendum making it a part of the Contract Documents prior to bidding.

1-10 SUBMITTALS

Electrical shop drawings shall be submitted in one complete package containing all items required by this specification and all other Division 26-28 specifications. Partial shop drawing submittals may be rejected by the Architect-Engineer.

Within 30 days after award of contract and before any materials are delivered to the site, submit one (1) digital set in pdf format and one (1) hard copy printed set to the Architect-Engineer on the following materials (partial/incomplete submittals may be rejected):

- 1) Section 260500 - Raceways, Fittings, and Surface Wiring Systems.
- 2) Section 260500 - Wire and Cable.
- 3) Section 260500 - Boxes and Wireways.
- 4) Section 260529 - Hangers and Supports for Electrical Systems.
- 5) Section 283100 - Fire Alarm Equipment and Drawings.

No extension of the Contract Time will be authorized because of failure to transmit submittals enough in advance of the Work to permit processing, including resubmittals.

The printed hard copy submittal shall be bound in a hardback binder with each submittal category tabbed separately. Each tab/divider shall include project name and name and address of firm or entity that prepared submittal.

Digital submittal to be pdf documents and shall mimic printed submittal in appearance and format.

Electrical submittal to include a separate transmittal letter indicating project name and address, date, contractor name and address, construction manager name and address (if applicable), list of submittals, and remarks, and signature of transmitter

PART 2 - MATERIALS

2-01 RACEWAYS AND FITTINGS

GALVANIZED RIGID CONDUIT (GRC): UL 6 and ASA C80.1 with full weight screwed fittings. Bushings shall be malleable iron. Bushings 1 1/4" and larger shall have insulated throat and grounding lug.

INTERMEDIATE GRADE METALLIC CONDUIT (IMC): UL 1242, galvanized, with full weight screwed fittings. Bushings shall be as specified above.

ELECTRICAL METALLIC TUBING (EMT): UL 797 and ASA C80.3 with steel compression or set-screw type fittings. Die-cast fittings are not acceptable. Fittings 1 1/4" and larger shall have nylon insulated throat. Indented or drive-on fittings are not acceptable.

SURFACE METAL RACEWAY (INDOOR): Wiremold V500 ivory surface metal raceway, or approved equal. Straps, boxes, elbows, etc. shall all be supplied by the same manufacturer. Total cross-sectional area shall be a minimum of 0.20 square inches.

2-02 WIRE AND CABLE

UL STANDARDS: UL 44 and UL 83.

CONDUCTOR: Copper, soft drawn, per ASTM B3. Sizes No. 12 and 10 shall be solid conductor. Sizes No. 8 and larger shall have Class B concentric stranding per ASTM B8. Stranded conductors may not be used on No. 12 and No. 10 circuits.

INSULATION: 600 Volt, 75 Deg C rated. Type THHN-THWN-MTW, unless noted otherwise.

SPLICING MATERIALS:

- No. 10 and smaller: Acceptable wire nuts or insulated crimped splice caps.
No. 8 and larger: Bronze or copper split bolts, or tinned compression connectors.
(Polaris insulated splice blocks may not be used on this project).

Insulation shall be Scotch No. 23 rubber tape and Scotch No. 33 plastic tape, or approved equivalent method.

2-03 BOXES AND WIREWAYS

OUTLET BOXES: Galvanized sheet steel per UL 514. "Through-wall" boxes SHALL NOT BE USED. Back-to-back mounting of boxes is not permitted. All outlet boxes 4"x4" or smaller located on opposite sides of a rated wall shall have a minimum of 24" horizontal spacing or shall be protected with listed putty pads. All outlet boxes larger than 4"x4" (communications outlets, etc.) located in rated walls shall be protected with listed putty pads.

Box sizes shall be as follows:

- 1) Wall Communications and Computer Outlets: 4 11/16" square by 2 1/8" deep with one gang plaster ring. Provide box with 1 1/4" conduit knockouts.
- 2) Ceiling outlets: 4" square or octagonal by 1 1/2" or 2 1/8" deep with stud or ears where required for fixture support.
- 3) Indoor Surface Mounted Outlets: Wiremold V5744S-2 surface metal box unless noted otherwise on the drawings (steel boxes and EMT conduit may be used in equipment rooms, janitor's closets, storage rooms).
- 4) Exposed Outlets: Malleable iron or heavy duty cast aluminum with threaded hubs, Type FS, FD, or GS. Manufactured by Crouse Hinds, Appleton, Killark, or approved equal. Die cast boxes are not acceptable.

WIREWAYS, PULL BOXES AND JUNCTION BOXES: UL 50. Code gage galvanized sheet steel, aluminum, or steel primed and painted after fabrication. Manufactured by Square D, Austin Berryhill, Hoffman Engineering, B-Line Systems, or approved equal. Wireways shall have hinged covers.

2-04 NAMEPLATES

NAMEPLATE: Provide engraved 3-ply laminated plastic nameplates for each panelboard, safety switch, transformer, enclosed circuit breaker, contactor, and lighting control panel. Attach to equipment cover using metal screws, rivets, or industrial epoxy cement. Manufacturer's sticky-back adhesive is not acceptable. Use 1/4" white letters on black field for normal power items and for Area of Rescue Assistance nameplates. Use 1/4" white letters on red field for firefighter's phone jack signage.

PART 3 - EXECUTION

3-01 GENERAL REQUIREMENTS

WORKMANSHIP: All work shall be installed in a neat and orderly manner. Devices, cabinets, covers, fixtures, exposed raceways, etc., shall be aligned parallel or perpendicular to the building walls, ceiling, and floor. Wiring in panelboards and cabinets shall be neatly looped and laced, and not wadded. The Owner reserves the right to require repair or replacement of defective workmanship and material without additional compensation to the Contractor.

SUPPORTS: Conduits, boxes, cabinets, enclosures, lighting fixtures, etc., shall be securely supported by structural members or structural walls at intervals required by the NEC or as recommended by the manufacturer. Plaster, gypsum board, acoustical tile, and other ceiling and wall finish materials shall not be used for support.

Recessed fluorescent, incandescent, and H.I.D. fixtures and recessed ceiling speakers shall be independently supported by two (2) or four (4) #12 steel hanger wires. Hanger wires shall be hung within 10 degrees of plumb, and shall be securely tied to structural members such as steel joists or beams, or to steel angles or tubing which bridge structural members.

CUTTING, PATCHING, AND PAINTING: The Contractor shall perform all boring, drilling, and cutting of walls, ceilings, and floors as required to install and support his raceways and equipment. Provide rough patching to seal penetrations through walls, ceilings, and floors. Provide finish patching and painting to match existing finishes.

FIRE WALL PENETRATIONS: Penetrations through fire rated walls and floors shall be sealed to maintain the integrity of the fire rating. Raceways through penetrations shall be in metal raceways. Penetration openings shall be sealed after the installation of the raceway with UL-49 listed fire retardant material, as manufactured by Chase Technology, 3M, Hilti, or approved equal. Penetrations shall be sealed in accordance with UL-49 requirements and the manufacturer's instructions. Coordinate manufacturer with the General Contractor so that all trades on the project use the same manufacturer.

ROOF PENETRATIONS: Do not penetrate roof or flashing unless permitted, in writing, by the Architect-Engineer.

3-02 GROUNDING

CODE: Entire system shall be grounded and bonded in accordance with the requirements of Article 250 of the National Electrical Code.

FEEDERS AND BRANCH CIRCUITS: Each feeder raceway shall be bonded to every cabinet, pull box, etc., to which it is connected by grounding bushings and bonding jumpers sized per NEC Table 250.122. Each branch circuit raceway must be connected to every cabinet, pull box, outlet box, etc., with double locknuts. Separate grounding conductors shall be installed on all feeders and on all lighting, receptacle and equipment branch circuits, whether indicated on the drawings or not. Size per NEC 250.122.

3-03 RACEWAYS

WIRING: All wiring shall be installed in raceways, unless noted. Raceways shall be run concealed, unless noted.

BRANCH CIRCUITS: Branch circuits shall be run concealed where practical.

Branch circuits run exposed to weather on exterior walls or on roofs shall be run in GRC or IMC with screwed fittings. Branch circuits run concealed in walls or ceilings shall be run in EMT, GRC, or IMC. Branch circuits run exposed in dry, finished spaces shall be run in Wiremold surface metal raceway. Branch circuits run exposed in damp locations, unfinished spaces (attics), and unoccupied spaces (storage room, equipment rooms, janitor's closet) may be run in EMT in lieu of Wiremold.

Branch circuits run underground shall be run in GRC, IMC, or Schedule 40 PVC plastic conduit. Underground conduits shall be run 24" minimum below grade. Metal conduits installed in contact with earth shall be painted with 2 coats Rustoleum paint or other acceptable preservative. Where plastic conduits are indicated, transition from plastic to GRC or IMC below grade or slab and rise

with GRC or IMC. PVC is not permitted above grade. EXCEPTION: Plastic conduit may enter floor mounted switchboards.

PULL WIRES: Raceways for wiring by others or for future shall contain a No. 14 galvanized steel pull wire or equivalent plastic cord with 200 lb. tensile strength.

INSTALLATION: Ream raceways, butt ends into couplings, 3 quarter bends per run maximum, plug raceways until wiring is pulled in place. Exposed conduits shall be run parallel and perpendicular to walls, floor, and ceiling. Multiple conduit runs shall be racked using Unistrut or Kindorf channels and pipe clamps. Install conduits in concrete slabs between the top and bottom layers of reinforcing steel. Maximum size of conduits in slabs is 1 inch. Crossing of conduits in slabs shall be avoided, if possible.

PULL BOXES: Maximum length between pull points shall be 200 ft. for pulls with two 90 degree bends, and 100 ft for pulls with three 90 degree bends. Furnish and install pullboxes, junction boxes, handholes, or conduit bodies where bends or pulling lengths exceed these specifications.

EXPANSION JOINTS: Furnish and install expansion joints where conduit crosses building expansion joints and for straight runs exceeding 100 ft. in length.

PLASTIC CONDUIT: Do not damage conduit while making field bends and offsets, cutting and joining conduit. Use GRC elbows where length between pulls exceeds 100 ft. Clean conduit prior to applying solvent. Insure that conduit extends fully into coupling or fitting when making joints.

MINIMUM SIZE: Home runs to panelboards shall be 3/4" minimum, otherwise raceways shall be 1/2" minimum, except that flexible conduit shall be 3/8" minimum.

3-04 WIRE AND CABLE

MINIMUM SIZE: No. 12 for power circuits, No. 14 for control circuits, unless noted. Where home run exceeds 75 ft. length on 120 volt circuits, use No. 10 minimum.

COLOR CODE: No. 12 and No. 10 shall have color-coded insulation. No. 8 and larger shall be marked at all terminals and joints with color-coded tape. Color code as follows:

<u>Voltage</u>	<u>Phase A</u>	<u>Phase B</u>	<u>Phase C</u>	<u>Neutral</u>	<u>Grounding</u>
208/120	Black	Red	Blue	White	Green

INSTALLATION: Insure that raceway system is complete and that conductors will be free from moisture or physical damage prior to installing conductors. Install all conductors at the same time. Do not exceed cable manufacturer's recommended pulling tension for conductors. Where required, lubricate cables with Ideal Yellow 77, Burndy Slikon, or other acceptable cable lubricant. Do not use lubricants that are not acceptable to the Architect-Engineer.

SPLICING: Splices on Sizes No. 10 and smaller shall be made with wire nuts. Splices on Sizes No. 8 and larger shall be made with split bolt connectors, compression connectors, or solderless lugs. Splices shall be insulated with two or more layers of Scotch 23 rubber tape covered with two or more layers of Scotch 33 plastic tape, or acceptable equivalent method.

MULTIWIRE BRANCH CIRCUITS: Shared or common neutrals are not permitted on this project for multiwire branch circuits. The Contractor shall pull a separate neutral for all 120V & 277V circuits.

3-05 BOXES

WALL OUTLETS: Flush mounted, unless noted. Boxes shall be securely mounted to wall studs or be grouted in masonry. Boxes shall have single or multi-gang plaster rings, as required. "Through-wall" boxes SHALL NOT BE USED. Back-to-back mounting of boxes is not permitted. Boxes on opposite sides of a rated wall shall have a minimum of 24" horizontal spacing or shall be protected with listed putty pads.

CEILING OUTLETS: Flush mounted or concealed above ceiling. Boxes for fixture support shall have studs or ears as required and shall be securely supported by adjustable bar hangers or steel angle.

JUNCTION BOXES, PULL BOXES, AND WIREWAYS: Shall be sized and installed as indicated on the drawings or where required by NEC for pulling or splicing wiring. All junction boxes and pull boxes shall be accessible. Junction boxes and pull boxes shall not be located above inaccessible ceilings.

LOCATIONS: Verify door swings and mount switches on strike side, 6" from jamb. Verify counter heights and arrangement prior to setting boxes. The Owner reserves the right to move any outlet by as much as 10 ft. from its indicated location at no additional cost, provided the Contractor is notified prior to roughing in.

3-06 COMPLETION OF WORK

TESTS AND FINAL REVIEW: Upon completion of work, the entire system shall be completely operational and tested to conform with these specifications and drawings, and shall be reviewed by the Architect-Engineer. All defects in workmanship and material shall be immediately corrected without additional compensation to the Contractor.

The final review of the electrical installation by the Engineer cannot be provided until the following items have been submitted to the Engineer for review:

- 1) Letter from the Contractor on company letterhead indicating that the installation is complete and ready for a final review.
- 2) Signed and dated certificate indicating that the specified functional tests of the Fire Alarm System have been performed.

Failure to submit the above documentation prior to requesting the Engineer's Final Review of the project may result in delays in providing the final review. The Engineer assumes no liability for delays in the project resulting from failure to provide the proper documentation.

The system will not be considered complete until Record Documents are provided and training of facility personnel on the system operation is complete. This facet of the services to be provided by the Contractor is deemed very important to the satisfactory completion of the contract and the installation cannot be deemed complete until these services have been provided in accordance with the Contract Documents.

CLEAN UP: Upon completion of all installations and prior to final acceptance by the Owner, remove all debris from the site. Clean and touch up paint on fixture lenses and trims, cabinets, enclosures, cover plates, etc.

END OF SECTION 260500

SECTION 260529 - HANGERS AND SUPPORTS FOR ELECTRICAL SYSTEMS

PART 1 - GENERAL REQUIREMENTS

1-01 SUMMARY

SECTION INCLUDES:

- 1) Hangers and supports for electrical equipment and systems.
- 2) Construction requirements for concrete bases.

1-02 PERFORMANCE REQUIREMENTS

- 1) Delegated Design: Design supports for multiple raceways, including comprehensive engineering analysis by a qualified professional engineer, using performance requirements and design criteria indicated.
- 2) Design supports for multiple raceways capable of supporting combined weight of supported systems and its contents.
- 3) Design equipment supports capable of supporting combined operating weight of supported equipment and connected systems and components.
- 4) Rated Strength: Adequate in tension, shear, and pullout force to resist maximum loads calculated or imposed for this Project, with a minimum structural safety factor of five times the applied force.

1-03 SUBMITTALS

- 1) Product Data: For steel slotted support systems.
- 2) Shop Drawings: Shop Drawings shall show fabrication and installation details and include calculations for the following:
 - a. Trapeze hangers. Include Product Data for components.
 - b. Steel slotted channel systems. Include Product Data for components.
 - c. Equipment supports.
- 3) Welding Certificates.

1-04 QUALITY ASSURANCE

- 1) Welding: Qualify procedures and personnel according to AWS D1.1/D1.1M, "Structural Welding Code - Steel."
- 2) Comply with NFPA 70.

PART 2 - PRODUCTS

2-01 SUPPORT, ANCHORAGE, AND ATTACHMENT COMPONENTS

- 1) Steel Slotted Support Systems: Comply with MFMA-4, factory-fabricated components for field assembly.
 - a. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:

- b. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - i. Allied Tube & Conduit.
 - ii. Cooper B-Line, Inc.; a division of Cooper Industries.
 - iii. ERICO International Corporation.
 - iv. GS Metals Corp.
 - v. Thomas & Betts Corporation.
 - vi. Unistrut; Tyco International, Ltd.
 - vii. Wesanco, Inc.
 - c. Metallic Coatings: Hot-dip galvanized after fabrication and applied according to MFMA-4.
 - d. Nonmetallic Coatings: Manufacturer's standard PVC, polyurethane, or polyester coating applied according to MFMA-4.
 - e. Painted Coatings: Manufacturer's standard painted coating applied according to MFMA-4.
 - f. Channel Dimensions: Selected for applicable load criteria.
- 2) Raceway and Cable Supports: As described in NECA 1 and NECA 101.
 - 3) Conduit and Cable Support Devices: Steel hangers, clamps, and associated fittings, designed for types and sizes of raceway or cable to be supported.
 - 4) Support for Conductors in Vertical Conduit: Factory-fabricated assembly consisting of threaded body and insulating wedging plug or plugs for non-armored electrical conductors or cables in riser conduits. Plugs shall have number, size, and shape of conductor gripping pieces as required to suit individual conductors or cables supported. Body shall be malleable iron.
 - 5) Structural Steel for Fabricated Supports and Restraints: ASTM A 36/A 36M, steel plates, shapes, and bars; black and galvanized.
 - 6) Mounting, Anchoring, and Attachment Components: Items for fastening electrical items or their supports to building surfaces include the following:
 - a. Powder-Actuated Fasteners: Threaded-steel stud, for use in hardened portland cement concrete, steel, or wood, with tension, shear, and pullout capacities appropriate for supported loads and building materials where used.
 - i. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
 - ii. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - Hilti Inc.
 - ITW Ramset/Red Head; a division of Illinois Tool Works, Inc.
 - MKT Fastening, LLC.
 - Simpson Strong-Tie Co., Inc.; Masterset Fastening Systems Unit.
 - b. Mechanical-Expansion Anchors: Insert-wedge-type, zinc-coated or stainless steel, for use in hardened portland cement concrete with tension, shear, and pullout capacities appropriate for supported loads and building materials in which used.
 - i. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
 - ii. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - Cooper B-Line, Inc.; a division of Cooper Industries.
 - Empire Tool and Manufacturing Co., Inc.
 - Hilti Inc.
 - ITW Ramset/Red Head; a division of Illinois Tool Works, Inc.
 - MKT Fastening, LLC.
 - c. Concrete Inserts: Steel or malleable-iron, slotted support system units similar to MSS Type 18; complying with MFMA-4 or MSS SP-58.

- d. Clamps for Attachment to Steel Structural Elements: MSS SP-58, type suitable for attached structural element.
- e. Through Bolts: Structural type, hex head, and high strength. Comply with ASTM A 325.
- f. Toggle Bolts: All-steel springhead type.
- g. Hanger Rods: Threaded steel.

2-02 FABRICATED METAL EQUIPMENT SUPPORT ASSEMBLIES

- 1) Description: Welded or bolted, structural-steel shapes, shop or field fabricated to fit dimensions of supported equipment.
- 2) Materials: Comply with requirements in Division 05 Section "Metal Fabrications" for steel shapes and plates.

PART 3 - EXECUTION

3-01 APPLICATION

- 1) Comply with NECA 1 and NECA 101 for application of hangers and supports for electrical equipment and systems except if requirements in this Section are stricter.
- 2) Maximum Support Spacing and Minimum Hanger Rod Size for Raceway: Space supports for EMT, IMC, and RMC as required by NFPA 70. Minimum rod size shall be 1/4 inch (6 mm) in diameter.
- 3) Multiple Raceways or Cables: Install trapeze-type supports fabricated with steel slotted or other support system, sized so capacity can be increased by at least 25 percent in future without exceeding specified design load limits.
 - a. Secure raceways and cables to these supports with two-bolt conduit clamps.
- 4) Spring-steel clamps designed for supporting single conduits without bolts may be used for 1-1/2-inch (38-mm) and smaller raceways serving branch circuits and communication systems above suspended ceilings and for fastening raceways to trapeze supports.

3-02 SUPPORT INSTALLATION

- 1) Comply with NECA 1 and NECA 101 for installation requirements except as specified in this Article.
- 2) Raceway Support Methods: In addition to methods described in NECA 1, EMT, IMC, and RMC may be supported by openings through structure members, as permitted in NFPA 70.
- 3) Strength of Support Assemblies: Where not indicated, select sizes of components so strength will be adequate to carry present and future static loads within specified loading limits. Minimum static design load used for strength determination shall be weight of supported components plus 200 lb (90 kg).
- 4) Mounting and Anchorage of Surface-Mounted Equipment and Components: Anchor and fasten electrical items and their supports to building structural elements by the following methods unless otherwise indicated by code:
 - a. To Wood: Fasten with lag screws or through bolts.
 - b. To New Concrete: Bolt to concrete inserts.
 - c. To Masonry: Approved toggle-type bolts on hollow masonry units and expansion anchor fasteners on solid masonry units.
 - d. To Existing Concrete: Expansion anchor fasteners.
 - e. Instead of expansion anchors, powder-actuated driven threaded studs provided with lock washers and nuts may be used in existing standard-weight concrete 4 inches (100 mm) thick or greater. Do not use for anchorage to lightweight-aggregate concrete or for slabs less than 4 inches (100 mm) thick.

- f. To Steel: Welded threaded studs complying with AWS D1.1/D1.1M, with lock washers and nuts; beam clamps (MSS Type 19, 21, 23, 25, or 27) complying with MSS SP-69; or spring-tension clamps.
 - g. To Light Steel: Sheet metal screws.
 - h. Items Mounted on Hollow Walls and Nonstructural Building Surfaces: Mount cabinets, panelboards, disconnect switches, control enclosures, pull and junction boxes, transformers, and other devices on slotted-channel racks attached to substrate by means that meet seismic-restraint strength and anchorage requirements.
- 5) Drill holes for expansion anchors in concrete at locations and to depths that avoid reinforcing bars.

3-03 INSTALLATION OF FABRICATED METAL SUPPORTS

- 1) Comply with installation requirements in Division 05 Section "Metal Fabrications" for site-fabricated metal supports.
- 2) Cut, fit, and place miscellaneous metal supports accurately in location, alignment, and elevation to support and anchor electrical materials and equipment.
- 3) Field Welding: Comply with AWS D1.1/D1.1M.

3-04 CONCRETE BASES

- 1) Construct concrete bases of dimensions indicated but not less than 4 inches (100 mm) larger in both directions than supported unit, and so anchors will be a minimum of 10 bolt diameters from edge of the base.
- 2) Use 3000-psi, 28-day compressive-strength concrete.
- 3) Anchor equipment to concrete base.
 - a. Place and secure anchorage devices. Use supported equipment manufacturer's setting drawings, templates, diagrams, instructions, and directions furnished with items to be embedded.
 - b. Install anchor bolts to elevations required for proper attachment to supported equipment.
 - c. Install anchor bolts according to anchor-bolt manufacturer's written instructions.

3-05 PAINTING

- 1) Touchup: Clean field welds and abraded areas of shop paint. Paint exposed areas immediately after erecting hangers and supports. Use same materials as used for shop painting. Comply with SSPC-PA 1 requirements for touching up field-painted surfaces. Apply paint by brush or spray to provide minimum dry film thickness of 2.0 mils.
- 2) Touchup: Comply with requirements in Division 09 for cleaning and touchup painting of field welds, bolted connections, and abraded areas of shop paint on miscellaneous metal.
- 3) Galvanized Surfaces: Clean welds, bolted connections, and abraded areas and apply galvanizing-repair paint to comply with ASTM A 780.

END OF SECTION 260529

SECTION 283100 - FIRE ALARM SYSTEM

PART 1 - GENERAL REQUIREMENTS

1-01 QUALIFICATIONS OF INSTALLER:

NOTE: EACH AND ALL ITEMS OF THE FIRE ALARM SYSTEM, INCLUDING WIRING, SHALL BE FURNISHED AND INSTALLED BY THE FIRE ALARM SYSTEM SUPPLIER (CONDUIT WITH PULL WIRES AND BOXES MAY BE INSTALLED BY THE ELECTRICAL CONTRACTOR). ANY WIRING OR FIRE ALARM EQUIPMENT FOUND TO BE INSTALLED BY THE ELECTRICAL CONTRACTOR SHALL BE REMOVED, DISCARDED, AND NEW FURNISHED & INSTALLED BY THE FIRE ALARM SYSTEM SUPPLIER AT NO COST TO THE OWNER OR THE ENGINEER.

Each and all items of the Fire Alarm System shall be listed as a product of a SINGLE Fire Alarm System manufacturer under the appropriate category by Underwriters' Laboratories, Inc. (UL), and shall bear the "UL" label. All control equipment is to be listed under UL category UOJZ as a single control unit. Partial listing shall NOT be acceptable. The fire alarm system shall be manufactured by an ISO 9001 certified company and meet the requirements of BS EN9001: ANSI/ASQC Q9001-1994.

1-02 GENERAL REQUIREMENTS:

Section 260500, "Basic Materials and Methods" applies to this section, with the additions and modifications specified herein.

NFPA COMPLIANCE: The complete installation is to conform to Local Code Requirements, to the applicable sections of "NFPA 72: National Fire Alarm Code", and to "NFPA 70: The National Electrical Code - 2008" with particular attention to Article 760. The entire installed system and all integrated system operations shall be within the guidelines of the 2009 International Building Code (IBC) and the 2009 International Fire Code (IFC).

ADA COMPLIANCE: The fire alarm installation shall comply with the requirements of Appendix B, "ADA Accessibility Guidelines" of the American Disabilities Act for alarm systems.

All references to manufacturer's model numbers and other pertinent information herein is intended to establish minimum standards of performance, function and quality. Equivalent compatible UL-listed equipment from other manufacturers may be substituted for the specified equipment as long as the minimum standards are met.

The fire alarm cabinet for this project must be UL 864 Ninth Edition Listed.

Specific reference in the specifications to any article, device, product, material, fixture, form or type of construction, etc., by name, make or catalog number, with or without the words "or equal" shall be interpreted as establishing a standard of quality and shall not be construed as limiting competition and the Contractor in such cases may, at his option, use any article, device, product, material, fixture, form or type of construction, which in the judgment of the Architect-Engineer, expressed in writing prior to bidding as specified below, is equivalent to that herein named.

The drawings and specifications shall be considered as complementary, one to the other, so that materials and labor indicated, called for, or implied by either shall be furnished and installed as if required by both. Where a disagreement exists between the plans and specifications, the item or arrangements of better quality, greater quantity, or higher cost shall be included in the base bid. Any discrepancies between the drawings, specifications, and field conditions shall be resolved with the Engineer prior to commencing work. All agreements shall be verified in writing.

1-03 DESCRIPTION OF WORK:

The work includes the installation of a complete fire alarm system including associated equipment and appurtenances, complete and ready for operation. Equipment, materials, installation, workmanship, review, and testing shall be in strict accordance with the required and advisory provisions of "NFPA 72: National Fire Alarm Code". Devices and equipment for fire alarm service shall be listed by Underwriters Laboratories Inc. The system and its components shall be Underwriters Laboratories, Inc. listed under the appropriate UL testing standard as listed herein for fire alarm applications and the installation shall be in compliance with the UL listing. The Contractor shall network the new FACP's and new NDU to the existing FACP using fiberoptic cable. Provide fiber adapter cards and other hardware necessary to provide fiberoptic network.

Furnish and install a networked addition to the existing Jones Building fire alarm system to be wired, connected, and left in first class operating condition. The systems shall use analog addressable initiating device circuits with individual device supervision, individual notification appliance circuit supervision, and incoming and standby power supervision. Include new network control equipment, power supplies, manual pull stations, smoke & heat sensors, addressable interfaces to sprinkler system devices furnished by others (if applicable), speakers, strobes, remote control devices, wiring, connections to devices, outlet boxes, junction boxes, and all other necessary material for a complete operating system.

The fire alarm control panels shall communicate with the existing equipment and allow for loading or editing special instructions and operating sequences as required. The system is to be capable of on-site programming to accommodate expansion, building parameter changes or changes as required by local codes. All software operations are to be stored in a non-volatile programmable memory within the fire alarm control panel. Loss of primary and secondary power shall not erase the instructions stored in memory.

All panels and peripheral devices shall be the standard product of Simplex and shall display the manufacturer's brand name on each component. Substitutions are not acceptable.

WARRANTY: All work performed and all material and equipment furnished under this contract shall be free from defects and shall remain so for a period of at least one (1) year from the date of acceptance. The full cost of maintenance, labor and materials required to correct any defect during this one year period shall be included in the submittal bid. The Contractor shall repair or replace any deficiencies reported in the guarantee period promptly after notification, without any additional compensation from the Owner.

ALTERNATE No. 1: As part of Alternate No. 1, the Contractor shall provide the following maintenance and testing, once at the 6-month point and a second time at the twelve-month point of the warranty period. The date of the two maintenance and testing sessions shall be scheduled as part of the fire alarm system closeout documents and shall be coordinated with the Owner and the Engineer prior to acceptance of the fire alarm system.

- A. Examination, adjustment and cleaning of all detectors, manual fire alarm stations, control panels, power supplies, relays, waterflow switches and all accessories of the fire alarm system.**
- B. Each circuit in the fire alarm system shall be tested semiannually.**
- C. Each smoke detector shall be tested in accordance with the requirements of NFPA 72.**

The Contractor shall provide lightning protection for the fire alarm system and fire alarm circuits per the Manufacturer's recommendation, to comply with UL 864 requirements.

Furnish and install wiring materials under this section as specified in Section 260500, "Basic Materials and Methods," with the additions and modifications specified herein. Furnish materials

and equipment that are current products of one manufacturer regularly engaged in the production of such equipment.

The existing Fire Alarm system for the Jones PSC Building was manufactured by Simplex (4100U FACP), and new equipment shall be compatible with and shall operate accurately and reliably with the existing system. Equipment and devices shall be compatible and operable in all respects with existing Fire Alarm system and shall not impair reliability or operational functions of existing Fire Alarm system.

The existing Area of Rescue Assistance for the Jones PSC Building was manufactured by Cornell (A-4224), and new equipment shall be compatible with and shall operate accurately and reliably with the existing system. Equipment and devices shall be compatible and operable in all respects with existing Area of Rescue Assistance system and shall not impair reliability or operational functions of existing system.

The existing Fire Alarm systems for the Coker Life Science and Earth Water Science Buildings were manufactured by Simplex and other manufacturers, and shall be removed complete once the new fire alarm systems are installed and operational.

1-04 SYSTEM OPERATION:

- A. Under normal condition, the front panel shall display a "SYSTEM NORMAL" message and the current time and date.
- B. Should an abnormal condition be detected, the appropriate LED (Alarm, Supervisory, or Trouble) shall flash. The panel audible signal shall pulse for alarm conditions and sound steadily for trouble and supervisory conditions.
- C. The panel shall have an eighty (80) character LCD display. The following information relative to the abnormal condition of a point in the system shall be displayed:
 - 1. Custom location label describing the exact location of the device to include floor, room number (or nearest room number for corridor mounted devices). No two devices shall have the same location label. Provide forty (40) characters minimum to describe location information; this is in addition to the "type of device" and "status" requirements listed below.
 - 2. Type of device (i.e. smoke, pull station, waterflow). Provide twenty (20) characters minimum to describe device type information.
 - 3. Point status (i.e. alarm, trouble, sprinkler supervisory). Provide twenty (20) characters minimum to describe point status.
- D. Pressing the appropriate acknowledge button shall acknowledge the alarm or trouble condition. (The acknowledge, reset and bypass functions shall be passcode protected. Four levels of passcode protection shall be provided). If the user has insufficient privilege to acknowledge such conditions, a message shall indicate insufficient privilege but allow the user to view the points without acknowledging them. Should the user have sufficient privilege to acknowledge, a message will be displayed informing the user that the condition has been acknowledged.
- E. Alarm Silencing
 - 1. Should the "Alarm Silence" button be pressed, all audible notification appliances shall be deactivated. Visual indicating appliances shall continue to flash until the system is reset.
- F. System Reset

1. The "System Reset" button shall be used to return the system to its normal state after an alarm condition has been remedied. The display shall step the user through the reset process with simple English language messages. Messages shall provide operator assurance of the sequential steps (i.e.: "IN PROGRESS", "RESET COMPLETED", and "SYSTEM NORMAL") as they occur, should all alarm conditions be cleared.
2. Should an alarm condition continue to exist, the system will remain in an abnormal state. System control relays shall not reset. The panel audible signal and the Alarm LED shall be on. The display will indicate the total number of alarms and troubles present in the system along with a prompting to review the points. These points will not require acknowledgment if they were previously acknowledged.

G. History Logging

1. In order to recreate a sequence of events in a fire or trouble investigation, each control panel shall store a minimum of three hundred (300) events in an alarm log plus a minimum of three hundred (300) events in a separate trouble log. The time and date of each occurrence must be included with each entry. These events shall be stored in a battery protected random access memory (RAM). In order to prevent re-occurring trouble conditions from overwriting alarm information, systems not having separate alarm and trouble logging memory shall include a UL Listed fire alarm printer with battery backup.

H. Walk Test with History Logging

1. The system shall be capable of being silently tested by one person. While in testing mode, the alarm activation of an initiating device shall be silently logged as an alarm condition in the historical data file. The panel shall automatically reset itself after logging of the alarm.
2. The momentary disconnection of an initiating or notification appliance circuit shall be silently logged as a trouble condition in the historical data file. The panel shall automatically reset itself after logging of the trouble condition.
3. Should the walk test feature be on for an inappropriate [programmable] amount of time, it shall revert to the normal mode automatically.
4. The control panel shall be capable of supporting up to eight (8) separate testing groups whereby one group of points may be in a testing mode and the other (non-testing) groups may be active and operate as programmed per normal system operation. After testing is considered complete, testing data may be retrieved from the system in chronological order to ensure proper device/circuit activation.

I. System Trouble Reminder

1. Should a trouble condition be present within the system and the audible trouble signal silenced, the trouble signal shall resound at preprogrammed time intervals to act as a reminder that the fire alarm system is not 100% operational. Both the time interval and the trouble reminder signal shall be programmable to suit the owner's application.

J. Smoke Sensor Operation

1. The smoke sensors shall automatically meet NFPA sensitivity testing requirements.
 - a. The control panel shall be listed as a calibrated sensitivity testing instrument that will automatically meet NFPA 72E Sensitivity Testing Requirements. The requirement to test the sensitivity of each detector within one year of installation and every alternate year thereafter as described in NFPA 72E shall not need to be performed manually.
2. The smoke sensors shall be smoke density measuring devices having no self contained alarm set-point. The alarm decision for each sensor shall be determined by the control

panel. The control panel shall determine the condition of each sensor by comparing the sensor value to stored values.

3. The control panel shall maintain a moving average of the sensors smoke chamber value. The system shall automatically maintain constant smoke obscuration sensitivity for each sensor and compensate for environmental factors such as dust accumulation.
4. The system shall automatically indicate when an individual sensor needs cleaning. When a sensor's average value reaches a predetermined value, a "Dirty Sensor" trouble condition shall be audibly and visually indicated at the control panel for the individual sensor. Additionally, the LED on the sensor base shall glow steady giving a visual indication at the sensor location.
 - a. The smoke sensor shall not be operating at an increased sensitivity level due to the dust/dirt contamination. It shall continue to operate at the pre-set sensitivity level.
5. It shall be possible to program the control panel to automatically change the sensitivity settings of each sensor based on time-of-day and day-of-week. (For example, to be more sensitive during unoccupied times and less sensitive during occupied periods).
6. Seven (7) levels of sensitivity settings shall be available for each individual sensor, ranging from 0.2% to 3.7% per foot of smoke obscuration.
7. The control panels shall have the capability of being programmed for a pre-alarm or two-stage function. This function shall allow a "pre-alarm" indication to occur when, for example, a 3% sensor reaches a threshold of 1.5% smoke obscuration.

K. ALARM SEQUENCE

1. The system alarm operation subsequent to the alarm activation of any manual station or automatic detection device is to be as follows:
 - a. The existing alarm tone and spoken voice announcement shall be sounded on all new and existing speakers throughout the facility.
 - b. All new and existing visible alarm indicating appliances shall flash continuously until the system is reset.
 - c. All doors that are normally held open by door control devices shall release.
 - d. The existing central station reporting circuit shall be activated to transmit an alarm signal to the owner's monitoring station.
 - e. The alarm shall be displayed on an 80 character LCD display at the new fire alarm control panels, at existing annunciator locations, and on the existing fire alarm control unit. The top line of 40 characters shall be the point label and the second line shall be the device type identifier. The system alarm LED shall flash until the alarm has been acknowledged. Once acknowledged, this same LED shall latch on.
2. The alarm activation of any elevator lobby smoke detector shall, in addition to the operations listed above, cause the elevator cabs to be recalled according to the following sequence:
 - a. If the alarmed detector is on any floor other than the main level of egress, the elevator cabs shall be recalled to the main level of egress.
 - b. If the alarmed detector is on the main egress level, the elevator cabs shall be recalled to the predetermined alternate recall level as determined by the local authority having jurisdiction.
 - c. The activation of any elevator related heat detector shall, in addition to the operations listed above, activate the associated elevator "shunt-trip" breaker to remove power from the elevator.

1-05 SUPERVISION:

- A. Each addressable initiating device and independently supervised circuit shall include a discrete panel readout to indicate disarrangement conditions.
- B. The incoming power to the system shall be supervised so that any power failure must be audibly and visibly indicated at the control panel. A green "power on" LED shall be displayed continuously while incoming power is present.
- C. The system batteries shall be supervised so that a low battery condition or disconnection of the battery shall be audibly and visibly indicated at the area control panel and main control unit.
- D. The system shall provide the ability for an authorized operator to disable or enable each addressable device and/or each individual NAC or control circuit individually for maintenance or testing purposes.
- E. If any addressable device is removed a "Device Missing" message along with the exact location of the missing device must be indicated at the associated fire alarm control panel and at the main fire alarm control unit.

1-06 POWER REQUIREMENTS:

- A. The control panel shall receive 120 VAC power (as noted on the plans) via a dedicated fused disconnect circuit.
- B. The control panel shall contain one 24VDC, 8 AMP power supply as a minimum. Additional 8 AMP power supplies shall be furnished as required to power the system with 20% spare capacity.
- C. The system shall be provided with sufficient battery capacity to operate the entire system upon loss of normal 120 VAC power in a normal supervisory mode for a period of twenty-four (24) hours with five (5) minutes of alarm operation at the end of this period. The system shall automatically transfer to the standby batteries upon power failure. All battery charging and recharging operations shall be automatic.
- D. All circuits requiring system operating power shall be 24VDC and shall be individually fused at the control panel.

1-07 SUBMITTALS:

Submit Manufacturer's Data for:

- Control Panel and Cabinet (FACP)
- Network Display Unit (NDU)
- Remote Annunciator Panel
- Batteries and Battery Charger
- Alarm Horns/Strobe Lights
- Synchronization Control Modules (SCMs)
- Manual Stations
- Smoke, Heat, and Duct Detectors
- Magnetic Door Holders
- Monitoring Modules (MMs) and Control Modules (CMs)

SHOP DRAWINGS: Fire Alarm Shop Drawings shall comply with the requirements of 907.1.1 of the International Fire Code – 2009. Provide drawings that clearly and completely indicate the function of the control panel and devices connected thereto. Indicate termination points of devices and indicate the interconnection of modules required for proper operation of the system. Include

manufacturer's name(s), model numbers, ratings, power requirements, equipment layout, device arrangement, complete wiring point-to-point diagrams, and conduit layouts.

Equipment Supplier shall submit shop drawings indicating exact routing of raceways and number and size of conductors in raceways for the fire alarm system. The Electrical Contractor shall use the reviewed drawing for rough-in of fire alarm system raceways and outlet boxes.

CALCULATIONS: Verify that battery capacity exceeds supervisory and alarm power requirements. Provide battery calculations and voltage drop calculations with shop drawing submittal.

CERTIFICATION: Together with the shop drawing submittal, submit a certification from the major equipment manufacturer indicating that the proposed supervisor of the installation and the proposed performer of contract maintenance is an authorized representative of the major equipment manufacturer. Include names and addresses in the certification.

OPERATION AND MAINTENANCE MANUAL: Provide two (2) copies, bound securely in durable, hard cover, water-resistant binders. Include instructions for operating and maintaining system components, assemblies, and accessories; include a detailed description of the control panel and system operation under both routine and emergency conditions. Include as-built circuit diagrams complete with conductor color codes, a parts list by name, model number, and manufacturer, and a listing of smoke detector locations, with the serial number and firing voltage for each. General system descriptions included in manufacturer's catalogs or advertising media will not be acceptable in meeting the operation and maintenance manual requirement.

TRAINING: Provide training for operating personnel in the system operation. Minimum instruction period shall be four (4) hours. Evidence of completion of training shall be included with closeout documents.

1-08 SPARE PARTS:

Spare parts shall be directly interchangeable with the corresponding components of the installed system. Spare parts shall be suitably packaged and identified by nameplate, stamping, or tagging. Keys and locks for equipment shall be identical where possible. Furnish the following:

- a. Four keys or tools for resetting manual stations
- b. Four keys for locks of control panels or cabinets
- c. **See Fire Alarm System Notes on drawings for additional items**

PART 2 - PRODUCTS

2-01 FIRE ALARM CONTROL PANELS:

- A. **ACCEPTABLE MANUFACTURERS:** Simplex - must be compatible with existing Simplex 4100 Series FACP located in Jones PSC Building. Materials and equipment shall be the standard products of one manufacturer regularly engaged in the production of such equipment and shall be listed by Underwriter's Laboratories (UL).
- B. Where shown on the plans, provide and install Simplex type 4100 Series Network Fire Alarm Control Panels. Construction shall be modular with solid state, microprocessor based electronics. It shall display only those primary controls and displays essential to operation during a fire alarm condition.
- C. The Control Panel shall have an 80 character LCD display and perform all functions listed in this specification. The display shall be backlit for enhanced readability. So as to conserve

battery standby power, it shall not be lit during an AC power failure unless an alarm condition occurs or there should be keypad activity.

- D. The Control Panel shall have the capability to monitor a minimum of 1,000 addressable devices.
- E. The Control Panel shall be provided with five auxiliary control switches with associated status LEDs programmed as follows:
 - 1. City Disconnect
 - 2. Speaker/Strobe Operation Bypass
 - 3. Door Holder/Door Lock Release Bypass
 - 4. AHU Shutdown Bypass
 - 5. Elevator Recall/Shunt Trip Bypass
- F. The control panel shall operate on the existing "peer-to-peer network" with existing fire alarm control panels.
- G. Provide cabinets of sufficient size to accommodate the aforementioned equipment. The cabinets shall be equipped with locks and transparent door panels providing freedom from tampering yet allowing full view of the various lights and controls.
- H. POWER SUPPLY:
 - a. A high tech off-line switching power supply shall be available for the fire alarm control panel or network node and provide 6.0 amps of available power for the control panel and peripheral devices.
 - b. Provisions will be made to allow the audio-visual power to be increased as required by adding modular expansion audio-visual power supplies.
 - c. Positive-Temperature-Coefficient (PTC) thermistors, circuit breakers, or other over-current protection shall be provided on all power outputs. The power supply shall provide an integral battery charger for use with batteries up to 55 AH or may be used with an external battery and charger system. Battery arrangement may be configured in the field.
 - d. The power supply shall continuously monitor all field wires for earth ground conditions, and shall have the following LED indicators:
 - 1. Ground Fault LED
 - 2. AC Power Fail LED
 - 3. NAC on LED (4)
 - e. The main power supply shall operate on 120 VAC, 60 Hz, and shall provide all necessary power for the FACP.
 - f. The main power supply shall provide a battery charger using dual-rate charging techniques for fast battery recharge and be capable of charging batteries up to 200 AH.
 - g. All circuits shall be power-limited, per UL864 requirements.
- I. BATTERIES: The battery shall have sufficient capacity to power the fire alarm system for not less than twenty-four hours plus 5 minutes of alarm upon a normal AC power failure. The batteries are to be completely maintenance free. No liquids are required. Fluid level checks for refilling, spills, and leakage shall not be required. If necessary to meet standby requirements, external battery and charger systems may be used.
- J. AUXILIARY FIELD POWER SUPPLY – ADDRESSABLE:
 - a. The auxiliary addressable power supply is a remote 24 VDC power supply used to power Notification Devices and field devices that require regulated 24VDC power. The power

supply shall also include and charge backup batteries.

- b. The addressable power supply for the fire alarm system shall provide up a minimum of 6.0 amps of 24 volt DC regulated power for Notification Appliance Circuit (NAC) power or 5 amps of 24 volt DC general power. The power supply shall have an additional .5 amp of 24 VDC auxiliary power for use within the same cabinet as the power supply. It shall include an integral charger designed to charge 7.0 - 25.0 amp hour batteries.
 - c. The addressable power supply shall provide four individually addressable Notification Appliance Circuits that may be configured as two Class "A" and two Class "B" or four Class "B" only circuits. All circuits shall be power-limited per UL 864 requirements.
 - d. The addressable power supply shall provide built-in synchronization for certain Notification Appliances on each circuit without the need for additional synchronization modules. The power supply's output circuits shall be individually selected for synchronization. A single addressable power supply shall be capable of supporting both synchronized and non-synchronized Notification Devices at the same time.
 - e. The addressable power supply shall operate on 120 or 240 VAC, 50/60 Hz.
 - f. The interface to the power supply from the Fire Alarm Control Panel (FACP) shall be via the Signaling Line Circuit (SLC) or other multiplexed means Power supplies that do not use an intelligent interface are not suitable substitutes. The required wiring from the FACP to the addressable power supply shall be a single unshielded twisted pair wire. Data on the SLC shall be transmitted between 24 VDC, 5 VDC and 0 VDC at approximately 3.33k baud.
 - g. The addressable power supply shall supervise for battery charging failure, AC power loss, power brownout, battery failure, NAC loss, and optional ground fault detection. In the event of a trouble condition, the addressable power supply shall report the incident and the applicable address to the FACP via the SLC.
 - h. The addressable power supply shall have an AC Power Loss Delay option. If this option is utilized and the addressable power supply experiences an AC power loss, reporting of the incident to the FACP will be delayed. A delay time of eight or sixteen hours shall be Dip-switch selected.
 - i. The addressable power supply shall have an option for Canadian Trouble Reporting and this option shall be Dip-switch selectable.
 - j. The addressable power supply mounts in either the FACP backbox or it's own dedicated surface mounted backbox with cover.
 - k. Each of the power supply's four output circuits shall be DIP-switch selected for Notification Appliance Circuit or General Purpose 24 VDC power. Any output circuit shall be able to provide up to 2.5 amps of 24 VDC power.
 - l. The addressable power supply's output circuits shall be individually supervised when they are selected to be either a Notification Appliance Circuit when wired Class "A" or by the use of an end-of-line resistor. When the power supply's output circuit is selected as General 24VDC power, the circuit shall be individually supervised when an end-of-line relay is used.
 - m. When selected for Notification Appliance Circuits, the output circuits shall be individually DIP-switch selectable for Steady, March Time, Dual Stage or Temporal.
 - n. When selected as a Notification Appliance Circuit, the output circuits of the addressable power supply shall have the option to be coded by the use of a universal zone coder.
 - o. The addressable power supply shall interface and synchronize with other power supplies of the same type. The required wiring to interface multiple addressable power supplies shall be a single unshielded, twisted pair wire.
 - p. An individual or multiple interfaced addressable power supplies shall have the option to use an external charger for battery charging. Interfaced power supplies shall have the option to share backup battery power.
- K. FIELD CHARGING POWER SUPPLY (FCPS): The FCPS is a device designed for use as either a remote 24 volt power supply or used to power Notification Appliances.
- a. The FCPS shall offer up to 6.0 amps (4.0 amps continuous) of regulated 24 volt power. It

shall include an integral charger designed to charge 7.0 amp hour batteries and to support 60 hour standby.

- b. The Field Charging Power Supply shall have two input triggers. The input trigger shall be a Notification Appliance Circuit (from the fire alarm control panel) or a relay. Four outputs shall be available for connection to the Notification devices.
- c. The FCPS shall include an attractive surface mount backbox.
- d. The Field Charging Power Supply shall include the ability to delay the AC fail delay per NFPA requirements.

L. VOICE COMMAND CENTER (VCC):

- a. The facility shall have an emergency voice alarm communication system. Digitally stored message sequences shall notify the building occupants that a fire or life safety condition has been reported. A Message generator shall be capable of automatically distributing up to four (4) simultaneous, unique messages to appropriate audio zones within the facility based on the type and location of the initiating event. The Fire Command Center (FCC) shall also support Emergency manual voice announcement capability for both system wide or selected audio zones, and shall include provisions for the system operator to override automatic messages system wide or in selected zones.
 - 1. The digital audio message generator shall be of reliable, non-moving parts, and support the digital storage of at least 16 or 32 minutes of tones and emergency messages, shall support programming options to string audio segments together to create up to 1000 messages, or to loop messages and parts of messages to repeat for pre-determined cycles or indefinitely.
 - 2. The audio portion of the system shall sound the proper audio signal (consisting of tone, voice, or tone and voice) to the appropriate zones.
 - 3. Notification Appliance Circuits (NAC) speaker circuits shall be arranged such that there is a minimum of one speaker circuit per floor of the building or smoke zone whichever is greater.
 - 4. Audio amplifiers and tone generating equipment shall be electrically supervised for normal and abnormal conditions.
 - 5. Speaker circuits shall be electrically supervised for open and short circuit conditions. If a short circuit exists on a speaker circuit, it shall not be possible to activate that circuit.
 - 6. Speaker circuits shall be either 25 VRMS or 70VRMS. Speaker circuits shall have 20% spare capacity for future expansion or increased power output requirements.
- b. The emergency voice alarm communication system shall incorporate a Two-way emergency telephone communication system.
 - 1. Two-way emergency telephone communication circuits shall be supervised for open and short circuit conditions.
 - 2. Two-way emergency telephone (Fire Fighter Telephone) communication shall be supported between the Audio Command Center and up to seven (7) remote Fire Fighter's Telephone locations simultaneously on a telephone riser.
 - 3. Means shall be provided to connect FFT voice communications to the speaker circuits in order to allow voice paging over the speaker circuit from a telephone handset.

2-02 NETWORK INTEGRATION:

- A. Furnish and install necessary software modifications to the existing Simplex fire alarm network to accommodate full annunciation and control of this system from the existing control unit.

2-03 PERIPHERAL DEVICES:

- A. **MANUAL PULL STATIONS:** Furnish and install where shown on the drawings Simplex type 4099 Series Addressable Manual Pull Stations. Stations shall be constructed of high impact red lexan and shall operate with or without glass rod. Station shall contain a key lock keyed identical to the control panel to be used for resetting the station. Once activated, the pull station handle shall remain at a 90 degree angle from the front of the station to provide visual indication as to which pull station was activated. Manual stations shall be suitable for semi-flush or surface mounting. Where stations are to be surface mounted, the enclosures shall be provided by the manufacturer. Stations shall be semi-flush mounted wherever possible. Stations shall be of the dual action type.
- B. **SMOKE SENSORS:** Furnish and install Simplex Model 4098 Series Truealarm Smoke Sensors where indicated on the drawings. The sensors shall mount in a Model 4098-9792 Addressable Sensor Base. The bases shall contain the addressable electronics in order to prevent incorrect annunciation of alarm or trouble conditions if sensors are not replaced in the location from which they were removed. Sensors shall be of the photoelectric type and shall communicate actual smoke chamber values to the system control panel. The sensors shall be listed to UL Standard 268 and shall be documented compatible with the control equipment to which they are connected. The sensors shall be listed for both ceiling and wall mount applications. The sensitivity of each individual detector shall be programmable by time of day. The sensors shall automatically meet NFPA sensitivity testing requirements.
- C. **HEAT SENSORS:** Furnish and install where indicated on the drawings Simplex type 4098 Series TrueAlarm Heat Sensors. They shall be a combination rate-of-rise and rate compensated fixed temperature sensor of which both operations are self restoring. The sensor's small thermal mass shall allow an accurate up-to-date temperature reading of each sensor to be logged at the control panel. The rate of rise operation shall be selectable in either a 15 degree per minute or a 20 degree per minute rate of temperature rise. The fixed temperature principle shall operate entirely independent of the rate of rise principle and shall be selectable for either 117 degrees or 135 degrees Fahrenheit.
- D. **DUCT SMOKE SENSORS:** Furnish and install where indicated on the plans, Simplex 4098 Series Duct Housings with type 4098-9714 TrueAlarm sensors. The sensors shall meet the requirements of UL Standard 268A and shall be documented compatible with the control equipment to which they are connected. The addressable duct smoke sensors shall operate on the light-scattering, photodiode principle, and shall communicate actual smoke chamber values to the system control. The sensors shall not have a self contained smoke sensitivity setting and shall automatically compensate for environmental changes. The sensor's electronics shall be completely shielded to protect against false alarms from EMI and RFI. The duct housing shall contain a red LED which shall pulse to indicate power-on and glow continuously to indicate an alarm or a sensor trouble condition. It shall also contain a SPDT auxiliary relay rated at 2 amps @ 120VAC or @ 28VDC for unit shutdown. This relay must be programmable from the fire alarm control panel to operate independently of detector activation to provide total unit shutdown and bypass control from the fire alarm control panel. The detectors shall obtain 24VDC operating power from the fire alarm control panel. The duct detectors shall utilize cross sectional sampling principle by which a sampling tube is extended across the duct to continuously sample the air movement through the duct, after which the sampled air is returned to the duct via an exhaust tube. Sampling tubes shall be properly sized for the duct in which they are installed. Provide a Simplex type 2098-9806 Remote Alarm Indicator with Test Keyswitch for each duct smoke sensor installed.
- E. **INDIVIDUAL ADDRESSABLE MODULE (IAM):** Furnish and install Simplex Model 4190 Individual Addressable Modules to monitor non-addressable devices as required. The units shall provide location specific addressability to non-addressable devices such as waterflow, sprinkler tamper switches and kitchen suppression systems by monitoring normally open dry

contacts. Closure of the monitored contact shall initiate an alarm condition. An open in the initiating circuit will cause a trouble to be reported at the fire alarm control panel. Units shall mount in a standard single gang electrical box.

- F. WATERFLOW AND OS&Y MONITOR SWITCHES: Waterflow and OS&Y Monitor Switches may be furnished under other sections of these specifications but shall be wired and connected to the Fire Alarm System by the Electrical Contractor.
- G. AUDIBLE/VISIBLE UNITS: Furnish and install where shown on the plans, Simplex type 4900 Series Audible/Visible Units. The visual appliances shall be selectable as 15, 30, 75, or 110 candela and have a flash rate of 1-3 hz as required by the Americans with Disabilities Act (ADA). The appliance shall be UL listed to Standard 1971 and have a circumpolar light output allowing mounting in either vertical or horizontal positions. The light unit shall be of ABS polycarbonate and the lens of high grade, optical quality LEXAN. For optimized light distribution, the xenon flash tube shall be installed perpendicular to the appliance's back plane. A special compound reflector shall be utilized to maximize and best distribute the light pattern in key axis directions. The unit shall be labeled with the word "FIRE" in a contrasting color and the height of each character shall be a minimum of 5/8". In its' quiescent state, the word "FIRE" shall be visible. The audible portion of the appliance shall be a speaker assembly with 1/4, 1/2, 1 and 2 watt taps.
- H. VISUAL ONLY UNITS: Furnish and install where shown on the plans, Simplex type 4904 Series Visible Notification Appliances. The units shall be 15 cd with polar distribution or 75 cd illumination and have a flash rate of 1-3 hz as required by the Americans with Disabilities Act (ADA). The appliance shall be UL listed to Standard 1971 and have a circumpolar light output allowing mounting in either vertical or horizontal positions. The light unit shall be of ABS polycarbonate and the lens of high grade, optical quality LEXAN. For optimized light distribution, the xenon flash tube shall be installed perpendicular to the appliance's back plane. A special compound reflector shall be utilized to maximize and best distribute the light pattern in key axis directions. The unit shall be labeled with the word "FIRE" in a contrasting color and the height of each character shall be a minimum of 5/8". In its' quiescent state, the word "FIRE" shall be visible.

2-04 RACEWAYS

Galvanized rigid conduit (GRC) or Intermediate grade metallic conduit (IMC) with screwed fittings, or Electrical metallic tubing (EMT) with compression type fittings or all-steel set screw fittings. See Section 260500, Basic Materials and Methods.

All circuits shall be in metal conduit, unless noted otherwise. All raceways shall be run concealed in walls or ceilings in EMT, GRC, or IMC, unless noted otherwise. Where surface raceway is required and is approved in writing by the Architect and the Owner, use Wiremold ivory surface metal raceway with red surface metal boxes compatible with fire alarm devices, except that EMT with steel boxes may be used in storage rooms, etc. requiring surface raceway. No high voltage wiring will be permitted in the same raceway or electrical box with any wiring of the fire alarm system except where there is a direct interface such as programmable relay controlling an external device. Where this occurs, the box must be clearly marked to indicate the presence of high voltage.

PART 3 - INSTALLATION

3-01 WORKMANSHIP

All work shall be installed in a neat and orderly manner. Devices, cabinets, covers, fixtures, exposed raceways, etc., shall be aligned parallel or perpendicular to the building walls, ceiling and

floor. Wiring in panelboards and cabinets shall be neatly looped and laced, and not wadded. The Owner reserves the right to require repair or replacement of defective workmanship and material without additional compensation to the Contractor.

All fire alarm system conductors shall be installed in conduit. Wire sizes and types shall be per manufacturers' recommendations. Install system according to NFPA Standards referenced in Parts 1 and 2 of this Section.

Fire Alarm Power Supply Disconnect: Paint red and label "FIRE ALARM." Provide with lockable handle or cover.

3-02 SUPPORTS

Conduits, boxes, cabinets, enclosures, etc., shall be securely supported by structural members or structural walls at intervals required by the NEC or as recommended by the manufacturer. Plaster, gypsum board, acoustical tile, and other ceiling and wall finish material shall not be used for support.

3-03 EQUIPMENT INSTALLATION

- A. Existing Fire Alarm Equipment (If Applicable): Maintain fully operational system. As new equipment is installed, label it "NOT IN SERVICE" until operational. Remove tags from new equipment when put into service and tag existing fire alarm equipment "NOT IN SERVICE" until removed from the building.
- B. Equipment Removal (If Applicable): After acceptance of the new fire alarm system, remove existing, disconnected fire alarm equipment and restore damaged surfaces. Remove from the site and legally dispose of the material.
- C. Manual Pull Stations: Mount semi-flush in recessed back boxes with operating handles 44 inches above finished floor or as indicated.
- D. Smoke Detectors: Install ceiling-mounted detectors in center of corridors or as indicated on the drawings but not less than 4 inches (100 mm) from a side wall to the near edge. Install detectors located on the wall at least 4 inches (100 mm) but not more than 12 inches (300 mm) below the ceiling. For exposed solid joist construction, mount detectors on the bottoms of the joists. On smooth ceilings, install detectors not over 30 feet (9 m) apart in any direction. Install detectors no closer than 5 feet (1500 mm) from air registers.
- E. Audible Alarm-Indicating Devices: Install not less than 80 inches above the finished floor nor less than 6 inches (160 mm) below the ceiling. Install bells and horns on flush-mounted back boxes with the device-operating mechanism concealed behind a grille or as indicated. Combine audible and visual alarms at the same location into a single unit.
- F. Visual Alarm-Indicating Devices: Install at 80 inches (2000 mm) above the finished floor or 6 inches (150 mm) below the ceiling, whichever is lower.
- G. Remote Alarm Indicators/Test Switches: Locate in the public space immediately adjacent to the device they monitor.
- H. Fire Alarm Control Panel (FACP): Surface mount with tops of cabinets not more than 6 feet (1800 mm) above the finished floor.
- I. Remote Annunciator: Arrange as indicated, with the top of the panel no more than 6 feet (1800 mm) above the finished floor.

3-04 WIRING INSTALLATION

- A. Wiring Method: Install wiring in metal raceway according to Division 16 Section "Raceways." Conceal raceway except in unfinished spaces and as indicated.
- B. Wiring Within Enclosures: Install conductors parallel with or at right angles to the sides and back of the enclosure. Bundle, lace, and train the conductors to terminal points with no excess. Mark each terminal according to the wiring diagrams of the system. Make all connections with approved crimp-on terminal spade lugs, pressure-type terminal blocks, or plug connectors.
- C. System Wiring: For the low-voltage portion of the fire alarm system, install No. 14 AWG conductors and 75-deg C insulation in wet, damp, or dry locations. For line-voltage wiring, install No. 12 AWG size with insulation rated 75 deg C minimum.
- D. Color Coding: Color-code fire alarm conductors differently from the normal building power wiring. Use one color code for alarm circuits wiring and a different color code for supervisory circuits. Color-code audible alarm-indicating circuits differently from alarm-initiating circuits. Use different colors for visual alarm-indicating devices. Paint fire alarm system junction boxes and covers red.
- E. Wiring to Central Station Transmitter: 1-inch (Size 27) conduit between the FACP and the central station transmitter connection as indicated. Install number of conductors and electrical supervision for connecting wiring as required to suit central-station monitoring function.
- F. Conduit and Wiring: See Section 260500, Basic Materials and Methods. All wiring shall be run in EMT, GRC, or IMC conduit. All junction box covers shall be spray painted red and labeled "Fire Alarm".

3-05 FIELD QUALITY CONTROL

- A. Manufacturer's Field Services: Provide services of a factory-trained service representative to supervise the field assembly and connection of components and the pretesting, testing, and adjustment of the system.
- B. Pretesting: Upon completing installation of the system, align, adjust, and balance the system and perform complete pretesting. Determine, through pretesting, the conformance of the system to the requirements of the Drawings and Specifications. Correct deficiencies observed in pretesting. Replace malfunctioning or damaged items with new and retest until satisfactory performance and conditions are achieved. Prepare forms for systematic recording of acceptance test results.
- C. Report of Pretesting: After pretesting is complete, provide a letter certifying the installation is complete and fully operable, including the names and titles of the witnesses to the preliminary tests.
- D. Final Test Notice: Provide a 10-day minimum notice in writing when the system is ready for final acceptance testing.
- E. Minimum System Tests: Test the system according to the procedures outlined in NFPA 72H, Chapters 2 and 4, and NFPA 72E, Chapter 8. Minimum required tests are as follows:
 - 1. Verify the absence of unwanted voltages between circuit conductors and ground.

2. Megger test all conductors other than those intentionally and permanently grounded with electronic components disconnected. Test for resistance to ground. Report readings less than 1-megohm for evaluation.
 3. Test all conductors for short circuits utilizing an insulation-testing device.
 4. Verify the control unit is in the normal condition as detailed in the manufacturer's operating and maintenance manual.
 5. Test each initiating and indicating device for alarm operation and proper response at the control unit.
 6. Test the system for all specified functions according to the manufacturer's operating and maintenance manual. Systematically initiate specified functional performance items at each station including making all possible alarm and monitoring initiations and using all communications options. For each item, observe related performance at all devices required to be affected by the item under all system sequences. Observe indicating lights, displays, signal tones, and annunciator indications.
 7. SMOKE DETECTOR TESTS: Prior to formal review and tests, clean and perform operational test on each smoke detector. Clean the smoke detectors in accordance with the manufacturers recommended procedures.
 8. DUCT MOUNTED SMOKE DETECTOR TESTS: Prior to formal review and tests, clean and perform operational test on each smoke detector. Clean the smoke detectors in accordance with the manufacturers recommended procedures. Provide documentation of duct detector testing per NFPA 72 Table 14.4.2.2-14(g)(6). Air duct detectors shall be tested or inspected to ensure that the device will sample the airstream. The test shall be made in accordance with the manufacturer's published instructions.
- F. Retesting: Correct deficiencies indicated by tests and completely retest work affected by such deficiencies. Verify by the system test that the total system meets the Specifications and complies with applicable standards.
- G. Report of Tests and Inspections: Provide a written record of inspections, tests, and detailed test results in the form of a test log. Submit log upon the satisfactory completion of tests.

3-06 CLEANING AND ADJUSTING

- A. Cleaning: Remove paint splatters and other spots, dirt, and debris. Touch up scratches and mars of finish to match original finish. Clean unit internally using methods and materials recommended by manufacturer.
- B. Initiating and indicating devices shall be SECURELY installed as indicated on the drawings and connected in accordance with the applicable wiring diagrams. The contractor shall clean all dirt and debris from the inside and outside of the fire alarm equipment after completion of the installation. The smoke detection devices shall be covered with plastic bags or hard covers in accordance with the manufacturer's recommendations after installation to maintain cleanliness. The bags/covers shall be red for quick visual identification for removal at time of occupancy.
- C. Occupancy Adjustments: When requested within one year of date of Substantial Completion, provide on-site assistance in adjusting sound levels and adjusting controls and sensitivities to suit actual occupied conditions. Provide up to three visits to the site for this purpose.

3-07 DEMONSTRATION

- A. Provide the services of a factory-employed service representative to demonstrate the system and train Owner's maintenance personnel as specified below.
 1. Train Owner's maintenance personnel in the procedures and schedules involved in operating, troubleshooting, servicing, and preventive maintaining of the system. Provide a minimum of 4 hours' training.

2. Schedule training with the Owner at least seven days in advance.

3-08 CLEAN-UP

Upon completion of all installations and prior to final acceptance by the Owner, all debris shall be removed from the site. Cabinets, enclosures, cover plates, etc., shall be cleaned and paint touched up.

END OF SECTION 283100