

# **PROJECT MANUAL**

## **USCA Pedestrian Bridge State Project No: H29-9545-PG**



October 9, 2012

Prepared By:  
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Columbia, SC 29210  
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CA Project # 577937





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This project is to be constructed under the South Carolina Department of Transportation's Specifications for Highway Construction Edition of 2007, and the South Carolina Department of Transportation's 2004 Construction Manual, the Supplemental Technical Specifications in effect at the time of letting. For the purpose of this Contract references to the Department shall refer to The University of South Carolina Aiken (USCA). References to the "Engineer", "Resident Construction Engineer", "Director of Traffic Engineering" or "Engineer's Representative" shall refer to Chao and Associates, Inc. (Chao)

THE SOUTH CAROLINA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION, 2007 EDITION can be viewed/downloaded at the following locations:

[http://www.scdot.org/doing/construction\\_standardspec.aspx](http://www.scdot.org/doing/construction_standardspec.aspx)

-or-

[purchasing.sc.com](http://purchasing.sc.com)

THE SOUTH CAROLINA DEPARTMENT OF TRANSPORTATION 2004 CONSTRUCTION MANUAL can be viewed/downloaded at the following locations:

[http://www.scdot.org/doing/construction\\_manual.aspx](http://www.scdot.org/doing/construction_manual.aspx)

-or-

[purchasing.sc.com](http://purchasing.sc.com)

THE SOUTH CAROLINA DEPARTMENT OF TRANSPORTATION SUPPLEMENTAL TECHNICAL SPECIFICATION can be viewed/downloaded at the following locations:

[http://www.scdot.org/doing/road\\_supspec.aspx](http://www.scdot.org/doing/road_supspec.aspx)

-or-

[purchasing.sc.com](http://purchasing.sc.com)

#### **ARCHITECTURAL SPECIFICATIONS**

034500 - Precast Architectural Concrete

042113 - Brick Masonry

081113 - Hollow Metal Doors and Frames

083113 - Access Doors and Frames

101419 - Dimensional Letter Signage

#### **ELECTRICAL SPECIFICATIONS**

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**Geotechnical Report** entitled USC Aiken Pedestrian Bridge Over Robert M. Bell Parkway SC 19/118, Aiken County, South Carolina prepared for Chao and Associates, Inc. by GeoStellar Engineering, LLC dated October 1, 2012 (GSE Project No. 10007-0001-0001) can be viewed/downloaded at the following location: [purchasing.sc.com](http://purchasing.sc.com)

**Phase I Environmental Site Assessment** – USCA Pedestrian Walkway Bridge State Project No. H29-9545 375 Robert Bell Parkway; Aiken, South Carolina prepared for Chao and Associates, Inc. by Alternative Construction & Environmental Solutions, Inc. (ACES) dated October 26, 2012 (Report Number: 1136-104-001) can be viewed/downloaded at the following location: [purchasing.sc.com](http://purchasing.sc.com)

**DIVISION 0**  
PROCUREMENT AND CONTRACTING REQUIREMENTS

**SE-310**  
**REQUEST FOR ADVERTISEMENT**

2011 Edition  
Rev. 7/20/2011

**PROJECT NAME:** USCA Pedestrian Bridge

**PROJECT NUMBER:** H29-9545-PG

**PROJECT LOCATION:** Aiken, 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:** \$1M - \$1.3M

**DESCRIPTION OF PROJECT:** Construction of pedestrian bridge over existing highway including approach ramps. This is a federally funded project with SCDOT that requires DBE participation, and all DBE contractors must be registered with SCDOT. Small and minority business participation is encouraged.

**A/E NAME:** Chao and Associates, Inc

**A/E CONTACT:** Gerald A. Lee

**A/E ADDRESS:** Street/PO Box:7 Clusters Court

City: Columbia

State: SC ZIP: 29210-

**EMAIL:** geraldl@chaoinc.com

**TELEPHONE:** 803-772-8420

**FAX:** 803-772-9120

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

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

**PLAN DEPOSIT AMOUNT:**        **IS DEPOSIT REFUNDABLE:** Yes  No

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

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

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

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

**DATE:** 3/13/2014 **TIME:** 10AM **PLACE:** USCA Business and Education Building Room 140

**AGENCY:** University of South Carolina

**NAME OF AGENCY PROCUREMENT OFFICER:** Juaquana Brookins

**ADDRESS:** Street/PO Box:743 Greene Street

City: Columbia

State: SC ZIP: 29208-

**EMAIL:** jbrookin@fmc.sc.edu

**TELEPHONE:** 803-777-3596

**FAX:** 803-777-7334

**BID CLOSING DATE:** 4/3/2014 **TIME:** 2 PM **LOCATION:** 743 Greene Street, Conf Room 53, Columbia, SC 29208

**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

**APPROVED BY** *(Office of State Engineer):* \_\_\_\_\_

**DATE:** \_\_\_\_\_

## **INSTRUCTIONS TO BIDDERS**

**AIA Document A701, 1997 Edition, Instructions to Bidders is incorporated into these contract documents by reference.**

**Copies of the Instructions to Bidders are available for examination at the offices of Chao and Associates, Inc.**



# OSE FORM 00201

## STANDARD SUPPLEMENTAL INSTRUCTIONS TO BIDDERS

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**OWNER:** University of South Carolina

**PROJECT NUMBER:** H29-9545-PG

**PROJECT NAME:** USCA Pedestrian Bridge

**PROJECT LOCATION:** Aiken, 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**

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

**2.2 CERTIFICATION OF INDEPENDENT PRICE DETERMINATION**

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

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

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

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

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

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

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

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

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

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

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

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

**2.3 DRUG FREE WORKPLACE**

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

**2.4 CERTIFICATION REGARDING DEBARMENT AND OTHER RESPONSIBILITY MATTERS**

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

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

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

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

**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

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

**2.7.** Delete Section 3.1.1 and substitute the following:

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

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

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

**2.10.** Insert the following Section 3.1.5

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

**2.11.** In Section 3.2.2:

Delete the words "and Sub-bidders"

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

**2.12.** In Section 3.2.3:

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

Insert the following at the end of the section:

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

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

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

**2.14.** Delete Section 3.3.2 and substitute the following:

**3.3.2** No request to substitute materials, products, or equipment for materials, products, or equipment described in the Bidding Documents and no request for addition of a manufacturer or supplier to a list of approved manufacturers or suppliers in the Bidding Documents will be considered prior to receipt of Bids unless written request for approval has been received by the Architect at least ten days prior to the date for receipt of Bids established in the Invitation for Bids. Any subsequent extension of the date for receipt of Bids by addendum shall not extend the date for receipt of such requests unless the addendum so specifies. Such requests shall include the name of the material or equipment for which it is to be substituted and a complete description of the proposed substitution including drawings, performance and test data, and other information necessary for an evaluation. A statement setting forth changes in other materials, equipment or other portions of the Work, including changes in the work of other contracts that incorporation of the proposed substitution would require, shall be included. The burden of proof of the merit of the proposed substitution is upon the proposer. The Architect's decision of approval or disapproval of a proposed substitution shall be final.

**2.15.** Delete Section 3.4.3 and substitute the following:

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

**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](http://www.scemd.org/scgovweb/weather_alert.html)

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

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

**2.19. Delete Section 4.1.3 and substitute the following:**

**4.1.3** Sums shall be expressed in figures.

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

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

**2.21. Delete Section 4.1.5 and substitute the following:**

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

**2.22. Delete Section 4.1.6 and substitute the following:**

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

**2.23. Delete Section 4.1.7 and substitute the following:**

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

**2.24. Delete Section 4.2.1 and substitute the following:**

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

**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.

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

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

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

**2.33.** *Insert the following Sections 5.2.2 and 5.2.3:*

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

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

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

**2.34.** *Delete Section 6.1 and substitute the following:*

**6.1 CONTRACTOR'S RESPONSIBILITY**

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

**2.35.** *Delete the language of Section 6.2 and insert the word “Reserved.”*

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

**2.37.** *Insert the following Section 6.4*

**6.4 CLARIFICATION**

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

**2.38.** *Delete Section 7.1.2 and substitute the following:*

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

**2.39.** *Delete the language of Section 7.1.3 and insert the word “Reserved.”*

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

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

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

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

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

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

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

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



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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

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

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

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

**9.5 PROTEST OF SOLICITATION OR AWARD**

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

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

(a) by email to [protest-ose@mmo.sc.gov](mailto: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.

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**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**

- 1. Refer to attached 'Calculation of DBE Goals for LPA Projects' for DBE participation requirement.

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**END OF DOCUMENT**



## **FEDERAL SPECIFICATIONS**

This project is to be constructed under the South Carolina Department of Transportation' Specifications for Highway Construction Edition of 2007, and the South Carolina Department of Transportation's 2004 Construction Manual, the Supplemental Technical Specifications in effect at the time of letting. For the purpose of this Contract references to the Department shall refer to The University of South Carolina Aiken (USCA). References to the "Engineer", "Resident Construction Engineer", "Director of Traffic Engineering" or "Engineer's Representative" shall refer to Chao and Associates, Inc. (Chao).

- (1) **SECTION 107: FAIR LABOR STANDARDS ACT OF 1938, AS AMENDED:**  
Attention is directed to this Federal Legislation, which has been enacted into law. The contractor will be responsible for carrying out all of the provisions of this legislation, which may affect this contract.
  
- (2) **SECTION 107: DBE PARTICIPATION:**  
The Bidder is encouraged to use DBE subcontractors on this project.
  
- (3) **SECTION 107: INSTRUCTIONS TO BIDDERS - FEDERAL PROJECTS DBE REQUIREMENTS:**  
See attached Supplemental Specification entitled "Instructions to Bidders – Federal Projects DBE Requirements" dated **April 2, 2011**. Please disregard all references to Electronic Bidding in this document.
  
- (4) **SECTION 107: APPLICATION OF DAVIS-BACON AND RELATED ACTS TO INDEPENDENT TRUCK DRIVERS AND MISCELLANEOUS CONSTRUCTION ACTIVITIES:**  
See attached Supplemental Specification dated **June 13, 1990**.
  
- (5) **SECTION 107: REQUIREMENTS FOR FEDERAL AID CONTRACTS WHICH AFFECT SUBCONTRACTORS, DBE HAULERS, MATERIAL SUPPLIERS AND VENDORS:**  
See attached Supplemental Specification dated **March 1, 2010**.
  
- (6) **SECTION 107: DISADVANTAGED BUSINESS ENTERPRISES (DBE) GOALS AND REQUIREMENTS:**  
See attached Supplemental Specification entitled "Disadvantaged Business Enterprises (DBE) Federal Projects" dated **March 3, 2010**, for specific requirements that must be met.
  
- (7) **SECTION 107: LATE DISCOVERY OF ARCHAEOLOGICAL/HISTORICAL REMAINS ON FEDERAL AID PROJECTS AND APPROVAL OF DESIGNATED BORROW PITS:**  
See attached Supplemental Specification dated **August 7, 1991**.
  
- (8) **GENERAL DECISION (WAGE RATES):**  
See the attached General Decision **SC45**.
  
- (9) **FHWA FORM 1273:**  
See the attached "REQUIRED CONTRACT PROVISIONS FEDERAL AID CONSTRUCTION CONTRACTS".

- (10) **EEO REQUIREMENTS:**  
See the attached “**STANDARD FEDERAL EQUAL EMPLOYMENT OPPORTUNITIES CONSTRUCTION CONTRACT SPECIFICATIONS**”.
- (11) **PROPOSAL FORM:**  
See the attached “**PROPOSAL FORM**”.
- (12) **DBE COMMITTAL SHEET:**  
See the attached “**DISADVANTAGED BUSINESS ENTERPRISES (DBE) COMMITTAL SHEET**”  
Dated **May 22, 1997**.

April 2, 2011

## **INSTRUCTIONS TO BIDDERS -- FEDERAL PROJECTS** **DBE REQUIREMENTS**

This project is partially funded with federal-aid highway funds, and is subject to the requirements for participation of Disadvantaged Business Enterprises (DBEs) set forth in 49 CFR Part 26. Therefore, there may be a goal set for participation of DBEs in this contract. If there is a DBE contract goal, it will be shown in Section 1 below. If there is a DBE contract goal, the Contractor is subject to the requirements set forth in the Supplemental Specifications in this contract entitled "Disadvantaged Business Enterprises (DBE) -- Federal Projects (hereinafter referred to as the "DBE Supplemental Specifications)". The Contractor must report DBE participation to the South Carolina Department of Transportation (SCDOT) quarterly by filing a Quarterly Report form (see Section 5 of the DBE Supplemental Specifications.)

Regardless of whether a contract goal is specified in Section 1, the Contractor shall not discriminate on the basis of race, color, national origin, or gender in the performance of this contract.

### **1. DBE CONTRACT GOAL**

The Department's overall DBE program goal is 10.5%, and the Contractor is encouraged to use all available and reasonable means to assist the SCDOT in meeting this goal. The goal for DBE participation for this contract is shown below as the percentage of the total contract amount bid by the Contractor.

**Disadvantaged Business Enterprises Contract Goal** **7.5 %**

The Contractor shall exercise all necessary and reasonable steps to ensure that DBEs perform services or provide materials on this contract in an amount that meets or exceeds the DBE contract goal. Submitting the electronic bid proposal shall constitute an agreement by the bidder that it will meet or exceed the DBE contract goal or make good faith efforts to meet the goal. Failure to meet the contract goal or make good faith efforts to meet the contract goal, may result in the sanctions listed in Section 2 of the DBE Supplemental Specifications.

### **2. DBE COMMITMENT**

Each bidder shall enter all the information regarding how it intends to meet the DBE goal in the electronic bid folder entitled "DBE List". The listing of DBEs shall constitute a commitment by the bidder to utilize the listed DBEs, subject to the replacement provisions in Section 3 of the DBE Supplemental Specifications. Failure to utilize the listed DBE subcontractor(s) may result in the sanctions listed in Section 2 of the DBE Supplemental Specifications.

In meeting the DBE contract goal, the bidder shall use only certified DBEs included in the "Directory of Certified Disadvantaged Business Enterprises" (hereinafter referred to as the "DBE Directory"), which is contained in the electronic file entitled "DBE BIN." The DBE BIN file for the letting can be found on and can be downloaded from the electronic bidding service web site, *Bid Express* (see Section 6 below).

Failure to provide all information required in the electronic bid may result in the contract being awarded to the next lowest responsible bidder.

The DBE BIN file listed for the letting must be downloaded for each particular letting because it is the data source for the DBEs listed in the DBE Directory designated for use in the letting. ALL DBE data such as Name, Company ID, and Address must be selected from drop-down lists provided by the DBE BIN file. If the DBE BIN file is not downloaded, no data for the drop-down lists will be available.

The following information must be selected or entered in the electronic bid:

- A. The names and addresses of certified DBEs whose services or materials will be used in the contract.
- B. Work Type and Work Code selected from a drop-down list. When one of these is selected, the other will be filled in automatically.
- C. An Item of work, approximate Quantity of work to be performed or materials to be supplied, Unit (of measurement), Unit Price, and the extended dollar amount of participation by each DBE listed.
  - (1) Item: The Item is the bid item with which the DBE will be associated and must be selected from the Schedule of (Bid) Items found in the drop-down list. If the proposed work is for only a portion of an Item of work (i.e. hauling of materials, tying of reinforced steel, etc.) an adequate description of this work shall be included in the Note block.
  - (2) Quantity, Unit, & Unit Price: Initially when an Item is selected, the contract quantity, unit, and the bidder's unit price and extension will appear. If the proposed work is for only a portion of an item as described in (1) above, then the Quantity, Unit Price and /or Extension shall be changed to reflect the actual amount of work committed to the DBE. The Unit (of measurement) cannot be changed.
- D. The bidder must also submit a copy of a signed statement or quote from each of the DBEs listed in the DBE List folder of the electronic bid. The signed statements or quotes should verify the items, quantities, units, unit prices, and dollar values listed in the DBE List folder of the electronic bid. COPIES OF THE SIGNED STATEMENTS MUST BE SUBMITTED TO THE SCDOT CONTRACT ADMINISTRATION OFFICE WITHIN SIX (6) CALENDAR DAYS OF THE BID LETTING. The Department will accept facsimiles of the verified statements with the caveat that the bidder must furnish the original document to the SCDOT upon request.

### **3. GOOD FAITH EFFORTS REQUIREMENTS**

- A. Requirements for Submission for Approval of a Good Faith Effort. If the bidder does not meet the DBE contract goal through the DBE committals submitted with the electronic bid, the bidder may submit additional information to satisfy the SCDOT that good faith efforts have been made by the bidder in attempting to meet the DBE contract goal. THIS INFORMATION MUST BE FURNISHED TO THE SCDOT CONTRACT ADMINISTRATION OFFICE IN WRITING WITHIN THREE (3) DAYS OF THE LETTING. One complete set and five copies of this information must be received in the office of the Contracts Engineer no later than 12:00 noon of the third day following the letting. Where the information submitted includes repetitious solicitation letters, it will be acceptable to submit a sample representative letter along with the list of the firms being solicited. The documented efforts listed in item (C.) below are some of items the SCDOT will consider in evaluating the bidder's good faith efforts. The documentation may include written subcontractor quotations, telephone log notations of verbal quotations, or other types of quotation documents.
- B. Failure to Submit Required Material. If the bidder fails to provide this information by the deadline, the SCDOT may impose one or more of the following sanctions:
  - (1) Disqualification of the bidder and any affiliated companies from further bidding for a period of time not to exceed 90 days from the date of disqualification as established in notification by certified mail;
  - (2) Disqualification of the bidder and any affiliated companies for award of all contracts for which bids have been received and opened; or,
  - (3) Disqualification of the bidder from the contract in question.

- C. Evaluation of a Good Faith Effort. The SCDOT may consider the following factors in judging whether or not the bidder made adequate and acceptable good faith efforts to meet the DBE contract goal:
- (1) Did the bidder attend any pre-bid meetings that were scheduled by the SCDOT to inform DBEs of subcontracting opportunities?
  - (2) Did the bidder provide solicitations through all reasonable and available means. For example: posting a request for quotes from DBE subcontractors on the SCDOT Construction Extranet webpage, or advertising in newspapers owned by and targeted toward DBEs at least 10 days prior to the letting, or providing written notice to all DBE's listed in the SCDOT DBE Directory that specialize in the areas of work in which the bidder will be subcontracting.
  - (3) Did the bidder follow-up initial solicitations of interests by contacting DBEs to determine with certainty whether they were interested or not? If a reasonable amount of DBEs in the area of work do not provide an intent to quote, or there are no DBEs that specialize in the area of work to be subcontracted, did the bidder call the SCDOT Office of DBE Program Development to give notification of the bidder's inability to obtain DBE quotes?
  - (4) Did the bidder select portions of the work to be performed by DBEs in order to increase the likelihood of meeting the contract goal? This includes, where appropriate, breaking out contract items of work into economically feasible units to facilitate DBE participation, even when the bidder might otherwise perform these items of work with its own forces.
  - (5) Did the bidder provide interested DBEs with adequate and timely information about the plans, specifications, and requirements of the contract?
  - (6) Did the bidder negotiate in good faith with interested DBEs, or reject them as unqualified without sound reasons based on a thorough investigation of their capabilities? Any rejection should be noted in writing with a description as to why an agreement could not be reached. The fact that the bidder has the ability or desire to perform the work with its own forces will not be considered as sound reason for rejecting a DBE's quote.
  - (7) Was a quote received from an interested DBE, but rejected as unacceptable because it was not the lowest quote received? The fact that the DBE's quote is not the lowest quote received will not in itself be considered a sound reason for rejecting the quote.
  - (8) Did the bidder specifically negotiate with non-DBE subcontractors to assume part of the responsibility to meet the contract goal when the work to be sublet includes potential for DBE participation?
  - (9) Did the bidder make any efforts and/or offer any assistance to interested DBEs in obtaining the necessary equipment, supplies, materials, insurance, and /or bonding to satisfy the work for items in the bid proposal?
  - (10) Any other evidence that the bidder submits which demonstrates that the bidder has made reasonable good faith efforts to include DBE participation.
  - (11) The DBE commitments submitted by all other bidders.

In the event one bidder is the apparent low bidder on more than one project located in the same geographical area in the same letting, the SCDOT will consider allowing the bidder to combine DBE participation as a part of the good faith effort, as long as the total of the DBE contract goals of all projects is achieved.

Nothing in this provision shall be construed to require the bidder to accept unreasonable quotes in order to satisfy DBE contract goals.

#### **4. DETERMINATION AND RECONSIDERATION PROCEDURES**

After the letting, the SCDOT will determine whether or not the low bidder has met the DBE contract goal or made good faith efforts to meet the goal. If the SCDOT determines that the low bidder failed to meet the goal and did not demonstrate a good faith effort to meet the goal, the SCDOT will notify the low bidder of its determination in writing. The low bidder may request a reconsideration of this determination.



The bidder must make a request for reconsideration in writing within two (2) calendar days of receipt of the determination. Within six (6) calendar days of receipt of the determination, the bidder must provide written documentation to SCDOT Director of Construction supporting its position.

The State Highway Engineer will designate an official who did not take part in the original determination (hereinafter referred to as the "Reconsideration Official"), to reconsider the bidder's DBE commitment or good faith efforts. The Reconsideration Official will contact the bidder and schedule a meeting. The Reconsideration Official will make reasonable efforts to accommodate the bidder's schedule; however, if the bidder is unavailable or not prepared for a hearing within ten (10) calendar days of receipt of the SCDOT original written determination, the bidder's reconsideration rights will be considered to have been waived.

The meeting will be held at the SCDOT Headquarters Building, 955 Park Street, Columbia, South Carolina. The bidder will be allowed up to two hours to present written or oral evidence supporting its position.

The Reconsideration Official will issue a written report to the State Highway Engineer. The SCDOT shall not award the contract until the State Highway Engineer issues a decision or the bidder waives its reconsideration right either through failure to request reconsideration or failure to be available for the meeting.

## **5. CONSEQUENCES OF FAILURE TO COMPLY WITH DBE PROVISIONS**

Failure on the part of the bidder to meet the DBE contract goal or to demonstrate good faith efforts to meet the DBE contract goal may result in the bid being declared non-responsive, and the award being made to the next lowest responsible bidder. The SCDOT also reserves the right to reject all bids.

## **6. DIRECTORY OF CERTIFIED DISADVANTAGED BUSINESS ENTERPRISES**

The electronic DBE BIN file found on the electronic bidding service website, *Bid Express*, contains data from the "Directory of Certified Disadvantaged Business Enterprises" approved for use in each particular letting. **The file must be downloaded for each letting because the directory approved for use in each letting may differ.** The bidder is advised that this directory pertains only to DBE certification and not to qualifications. It is the bidder's responsibility to determine the actual capabilities and/or limitations of the certified DBE firms.

In meeting the DBE contract goal, the bidder shall use only DBEs that are included in the DBE Directory contained in the DBE BIN file current for the month the bid is submitted. The bidder may only count toward the DBE goal work in the areas for which the DBE has been certified, unless prior written approval from the SCDOT is obtained. The bidder and the DBE must jointly apply to the SCDOT's Director of Construction for approval of work in an area of work other than that in which the DBE has been certified. The requested work must be in an area related to the area of work in which the DBE has been certified. Such request must be submitted in writing to the Director of Construction no later than ten (10) days prior to the date of the letting. The Director of Construction has the right to approve or disapprove the request. The Director of Construction will give the bidder and the DBE written notice of his decision no later than five (5) days prior to the date on which bids are received. If approved, a copy of the written approval must accompany the submission of the subcontractor's quote.

Certification of a DBE for work in a certain area of work or approval to perform work in a related area shall not constitute a guarantee that the DBE will successfully perform the work or that the work will be performed completely. Such certification or approval shall only imply that the successful completion of the work by the DBE can count toward satisfying the DBE contract goal in accordance with the counting rules set forth in 49 CFR Part 26 (see Section 4 of the DBE Supplemental Specifications.)

The bidder may print a copy of the DBE Directory from the SCDOT web page at [www.scdot.org](http://www.scdot.org) under "Doing Business with SCDOT."

**7. ADDITIONAL DBE PARTICIPATION**

The bidder is strongly encouraged to obtain the maximum amount of DBE participation feasible on the contract. Any DBE participation in excess of the DBE contract goal shall also be included in the Quarterly Reports.

**8. CONTRACTOR'S RESPONSIBILITY TO REPORT BIDDER INFORMATION**

The Bidder should keep a list of all subcontractors (DBE or non-DBE) who bid or quoted for subcontracts on this project. As a condition to prequalification or renewal of prequalification, Contractors must submit the names and addresses of all firms (DBE and non-DBE) who quoted the Contractor for subcontracts on SCDOT projects throughout the course of the previous year.

Subcontractors should also keep a list of second tier subcontractors who bid or quote on second tier subcontracts. As a condition to approval as a subcontractor, SCDOT will require a subcontractor to submit, or have submitted within the previous year, the names and addresses of all firms (DBE and non-DBE) who quoted the subcontractor for second tier subcontracts on SCDOT projects throughout the course of the previous year. A subcontractor will not be approved for work on a SCDOT project until the subcontractor has submitted this information.

June 13, 1990

## **APPLICATION OF DAVIS-BACON AND RELATED ACTS TO INDEPENDENT TRUCK DRIVERS AND MISCELLANEOUS CONSTRUCTION ACTIVITIES**

### The Davis-Bacon and Related Acts apply when:

- 1) A Contractor or Subcontractor hires a trucking firm or fleet of trucks to haul materials from a plant, pit, or quarry, which has been established specifically to serve (or nearly so) a particular project or projects covered by Davis-Bacon and Related Acts.
- 2) A Contractor or Subcontractor hires a trucking firm or fleet of trucks to haul material from a non-commercial stockpile or non-commercial storage site outside the limits of the project to the project site.
- 3) A Contractor or Subcontractor hires a trucking firm or fleet of trucks to haul excavated materials away from a Davis-Bacon covered project.
- 4) A contractor or Subcontractor rents or leases equipment with an operator to perform work as called for under a Davis-Bacon construction contract.
- 5) A common carrier is used for the transportation of materials from an exclusive material supply facility to fulfill the specific need of a construction contract.

The fleet owner is not considered a Subcontractor with regard to the 70% subcontracting limitations and would not have to be approved as a Subcontractor. However, payrolls must be submitted by truck fleet owner covering the truck drivers, and all requirements such as predetermined wages, overtime, etc., are applicable. Legitimate owner-operators (truck owner driving his own truck) must appear on the payroll by name and notation "truck Owner Operator" with no hours, etc. shown.

### The Davis-Bacon and Related Acts do not apply when:

- 1) A Contractor or Subcontractor hires a trucking firm or fleet of trucks to haul materials from a commercial plant, pit, or quarry which had previously been established for commercial use and regularly sell materials to the general public.
- 2) A Contractor or Subcontractor hires a trucking firm or fleet of trucks to haul materials from an established commercial plant, pit, or quarry to a stockpile outside the limits of the project.
- 3) Bona fide owner-operators of trucks, who are independent contractors, use their own equipment to haul materials to or from or on a Davis-Bacon covered project. (One man-One truck)

The fleet owner is not considered a Subcontractor with regard to the 70% subcontracting limitation and would not have to be approved as a Subcontractor.

March 1, 2010

**REQUIREMENTS FOR FEDERAL AID CONTRACTS WHICH AFFECT SUBCONTRACTORS, DBE HAULERS, MATERIAL SUPPLIERS AND VENDORS**

- A. The contractor's attention is directed to the requirements of Section I.2 in Form FHWA 1273 that is included in your contract documents as the Supplemental Specification "Required Contract Provisions Federal-Aid Construction Contracts". Section I.2 requires that "the contractor shall insert in each subcontract all of the stipulations contained in the Required Contract Provisions". This requirement also applies to lower tier subcontractors or purchase orders. These provisions must be physically included in your subcontracts. A reference to the applicable specification will not suffice.
- B. The contractor's attention is directed to the requirements of the Supplemental Specification "Standard Federal Equal Employment Opportunity Construction Contract Specifications". Section 2 requires that the provisions of this specification must be physically included in each subcontract with a value of \$10,000 or greater.
- C. The contractor's attention is directed to the requirements of the Equal Employment Opportunity Performance certifications in the Proposal Form Certifications and Signatures section of the contract. Section 1 concerning Equal Employment Opportunity must be physically included in each subcontract.
- D. Prior to the issuance of formal approval, all DBE subcontracts must include a signed copy of the subcontract agreement between the Prime Contractor and the DBE Subcontractor.
- E. Prior to the issuance of formal approval, of any DBE haulers, the contractor must submit a signed copy of the hauling agreement.
- F. The contractor's attention is further directed that sections 1, 2, 3, 8, 9, and 11 of Form FHWA 1273, or Sections 1, 3, 8 and 10 of Form 1316 (for Appalachian contracts only) must be physically included in each purchase agreement with a value of \$10,000 or greater with a vendor or supplier, and in open-end contracts where individual purchases are less than \$10,000 but where the total purchases accumulate to \$100,000 or more per year.

## **DISADVANTAGED BUSINESS ENTERPRISES (DBE) -- FEDERAL PROJECTS**

### **1. POLICY**

It is the policy of the South Carolina Department of Transportation (SCDOT) to ensure nondiscrimination in the award and administration of federally assisted contracts and to use Disadvantaged Business Enterprises (DBE's) in all types of contracting and procurement activities according to State and Federal laws. To that end, the SCDOT has established a DBE program in accordance with regulations of the United States Department of Transportation (USDOT) found in 49 CFR Part 26.

### **2. CONTRACTOR'S OBLIGATIONS**

A. No Discrimination. Neither the Contractor nor its subcontractors shall discriminate on the basis of race, color, national origin, or gender in the performance of this contract. The Contractor shall carry out the applicable requirements of 49 CFR Part 26 and these supplemental specifications in the award and administration of this contract. Failure by the contractor to carry out these requirements is a material breach of the contract, and may result in the termination of the contract or such other remedy as SCDOT deems appropriate.

B. Meeting both the Goal and Commitment or Making Good Faith Efforts to Meet the Goal and Commitments. It is the Contractor's responsibility to meet the DBE contract goal and commitments stated in the "Instructions to Bidders – Federal Projects – DBE Requirements" (hereinafter referred to as "Instructions to Bidders") or to make good faith efforts to meet the DBE contract goal/commitments. The Instructions to Bidders is incorporated herein by reference and made a part of this contract. Failure to meet the goal or commitments to specific DBEs listed on the committal sheet or to demonstrate good faith efforts to meet the goal or commitments may result in any one or more of the following sanctions:

- (1) Withholding monthly progress payments;
- (2) Declaring the Contractor in default pursuant to Section 108.10 of the Standard Specifications and terminating the contract;
- (3) Assessing sanctions in the amount of the difference in the DBE contract committal and the actual payments made to each certified DBE's;
- (4) Disqualifying the Contractor from bidding pursuant to Regulation 63-306, Volume 25A, of the S. C. Code of Laws; and/or
- (5) Requiring the Contractor to obtain DBE participation on future contracts to the extent the Contractor failed to meet or use good faith efforts to meet the DBE contract goal.

C. Using the DBE's shown on the Committal Sheet to Perform the Work. The Contractor must utilize the specific DBE's listed on the "DBE Committal Sheet" to perform the work and supply the materials for which each is listed unless the Contractor obtains prior written approval from the Director of Construction to perform the work with other forces or obtain the materials from other sources (See Replacement Procedures in Section 3(B)) The Contractor shall not be entitled to any payment for such work or material unless it is performed or supplied by the listed DBE or, with prior written approval of the Director of Construction, by other forces (including those of the Contractor). Failure to meet a commitment to a specific DBE may result in the sanctions listed in section 2B above, unless prior written approval is obtained for replacement of the committed DBE.

D. Incorporating Certain Provisions in Subcontracts. **The Contractor shall provide SCDOT with a copy of all DBE subcontracts.** The Contractor shall ensure that all subcontracts or an agreement with DBE's to supply labor or materials require that the subcontract and all lower tier subcontracts be performed in accordance with these Supplemental Specifications. The contractor is advised to insert the following provision in each subcontract or agreement: "This contract or agreement shall be performed in accordance with the requirements of the SCDOT Supplemental Specification entitled "Disadvantaged Business Enterprises (DBE) – Federal Projects" dated February 2004.

### **3. REPLACEMENT OF CERTIFIED DBE'S**

A. Requirement for Replacement. The following shall apply to replacement of a DBE listed on the "DBE Committal Sheet":

- (1) *When a DBE listed on the DBE committal sheet (hereafter referred to as a "committed DBE") is unable or unwilling to perform the work in accordance with the subcontract, the Contractor shall follow the replacement procedures in Section 3(B). Failure on the part of the Contractor to comply with this requirement shall constitute a breach of contract and may be cause for the imposition of the sanctions set forth in Section 2(B).*
- (2) *When a committed or non-committed DBE is decertified or removed from the SC Unified DBE Directory after execution of a valid subcontract agreement with the Contractor.*
  - a. The Contractor may continue to utilize the decertified DBE on the contract and receive credit toward the DBE contract goal for the DBE's work unless the Contractor is implicated in the DBE decertification. However, the Contractor is encouraged to replace the decertified DBE with a certified DBE where feasible, to assist SCDOT in meeting the overall statewide DBE goal.
  - b. If a *committed or non-committed* DBE is removed from the SC Unified DBE Directory due to graduation from the DBE program, the Contractor may continue to utilize the graduated DBE on the contract and receive credit toward the DBE contract goal for the DBE's work.
- (3) *When a committed DBE is decertified or removed from the SC Unified DBE Directory prior to execution of a valid subcontract agreement with the Contractor, the Contractor shall follow the replacement procedures in Section 3(B). Failure on the part of the Contractor to comply with this requirement shall constitute a breach of the contract and may be cause for the imposition of the sanctions set forth in Section 2(B) above.*

B. Replacement Procedures. In order to replace a *committed* DBE, the Contractor must obtain prior approval from the Director of Construction. To request such approval, the Contractor shall notify the Director of Construction and the DBE, and provide documentation of the need and reasons for replacement. If the DBE consents to the replacement, the Contractor shall also provide the Director of Construction with the DBE's written consent. If the DBE's consent cannot be obtained, the Contractor shall notify the Director of Construction that the DBE's consent could not be obtained. In no case shall the Contractor's ability to negotiate a more advantageous contract with another subcontractor be considered a valid basis for replacement. If the Contractor obtains the Director of Construction's approval for the replacement, the Contractor shall replace the listed DBE with another certified DBE or make good faith efforts to do so as set forth in Section 3(C). Any DBE who is certified at the time of replacement may be used as a replacement. If the Director of Construction does not approve of replacement, the Contractor shall continue to use the *committed* DBE in accordance with the contract. Failure to do so may constitute cause for imposition of any of the sanctions set forth in Section 2(B).

C. Good Faith Efforts. After approval for replacement is obtained, if the Contractor is not able to find a replacement DBE, the Contractor shall provide the Director of Construction with documentation of its good faith efforts to find a replacement. This documentation shall include, but is not limited to, the following:

- (1) Copies of written notification to certified DBE's that their interest is solicited in subcontracting the work defaulted by the previous certified DBE or in subcontracting other items of work in the contract.
- (2) Statement of efforts to negotiate with certified DBE's for specific subbids including at a minimum:
  - a. Names, addresses and telephone numbers of certified DBE's who were contacted;
  - b. Description of the information provided to certified DBE's regarding the plans and specifications for portions of the work to be performed;
  - c. Statement of why additional agreements with certified DBE's were not reached.

- (3) For each certified DBE contacted but rejected, the reasons for the Contractor's rejection. Failure to find a replacement DBE at the original price is not in itself evidence of good faith.
- (4) Documentation demonstrating that the Contractor contacted SCDOT's DBE Supportive Service contractor for assistance in locating certified DBE's willing to take over that portion of work or do other work on the contract.

If SCDOT determines that the Contractor has made good faith efforts to replace the listed DBE with another certified DBE, then the remaining portion of the DBE's work shown on the "DBE Committal Sheet" can be completed by the Contractor's own forces or by a non-DBE subcontractor approved by the SCDOT. The Contractor will not be required to make up that part of the DBE goal attributable to the portion of work not completed by the listed DBE, and this shortfall in meeting the DBE goal will be waived by the SCDOT.

If SCDOT determines that the Contractor has not made good faith efforts to replace the listed DBE with another certified DBE, such failure may constitute cause for imposition of any of the sanctions set forth in Section 2(B).

D. Payment from SCDOT. The Contractor shall not be entitled to payment for work or material committed to a listed DBE unless:

- (1) The work is performed by the *committed* DBE; or
- (2) The work is performed by another certified DBE after the Director of Construction has given approval to replace the listed DBE as provided above; or
- (3) The work is performed by a non-DBE after SCDOT determines that the Contractor has demonstrated good faith efforts to replace the listed DBE as provided above.

#### **4. COUNTING CERTIFIED DBE PARTICIPATION TOWARD MEETING THE DBE GOAL**

DBE participation shall be measured by the actual, verified payments made to DBE's subject to the following rules (all references to "DBE" herein shall mean "certified DBE"). The Contractor is bound by these rules in regard to receiving and reporting credit toward the DBE contract goal. The Contractor shall report on DBE Quarterly Reports only the amounts properly attributable toward the goal under these rules.

##### A. General Counting Rules.

- (1) The entire amount of that portion of a construction contract (or other contract not covered by paragraph A(2) of this section) that is performed by the DBE's own forces may be counted toward the goal. The cost of supplies and materials obtained by the DBE for the work of the contract, including supplies purchased or equipment leased by the DBE (except supplies and equipment the DBE subcontractor purchases or leases from the prime contractor or its affiliate) can be counted toward the goal.
- (2) When a DBE subcontracts part of the work of its contract to another firm, the value of the subcontracted work may be counted toward DBE goals only if the subcontractor is also a DBE. Work that a DBE subcontracts to a non-DBE firm does not count toward the DBE goals.
- (3) The Contractor can count expenditures to a DBE only if the DBE is certified by SCDOT, except as provided in section 3A(2) of these supplemental specifications, in the event a DBE loses eligibility status after a subcontract is signed.
- (4) The Contractor can count expenditures to a DBE only after the DBE has actually been paid.

B. Joint Ventures. When a DBE performs as a participant in a joint venture, the portion of the total dollar value of the contract equal to the distinct, clearly defined portion of the work of the contract that the DBE performs with its own forces can be counted toward DBE goals. A joint venture must be approved by the Director of Construction prior to start of the contract.

C. Commercially Useful Function. Expenditures to a DBE contractor can be counted toward DBE goals only if the DBE is performing a commercially useful function on that contract:

- (1) A DBE performs a commercially useful function when it is responsible for execution of the work of the contract and is carrying out its responsibilities by actually performing, managing, and supervising the work involved. To perform a commercially useful function, the DBE must also be responsible, with respect to materials and supplies used on the contract, for negotiating price, determining quality and quantity, ordering the material, and installing (where applicable) and paying for the material itself. To determine whether a DBE is performing a commercially useful function, SCDOT will evaluate the amount of work subcontracted, industry practices, whether the amount the firm is to be paid under the contract is commensurate with the work it is actually performing and the DBE credit claimed for its performance of the work, and other relevant factors.
- (2) A DBE does not perform a commercially useful function if its role is limited to that of an extra participant in a transaction, contract, or project through which funds are passed in order to obtain the appearance of DBE participation. In determining whether a DBE is such an extra participant, SCDOT will examine similar transactions, particularly those in which DBE's do not participate.
- (3) If a DBE does not perform or exercise responsibility for at least 30 percent of the total cost of its contract with its own work force, or the DBE subcontracts a greater portion of the work of a contract than would be expected on the basis of normal industry practice for the type of work involved, SCDOT will presume that it is not performing a commercially useful function.
- (4) When a DBE is presumed not to be performing a commercially useful function as provided in paragraph (3) of this section, the DBE may present evidence to rebut this presumption. SCDOT may determine that the firm is performing a commercially useful function given the type of work involved and normal industry practices.
- (5) SCDOT's decisions on commercially useful function matters are subject to review by the concerned operating administration, but are not administratively appealable to the USDOT.

D. Special Rules for Trucking Companies. SCDOT will use the following rules to determine whether a DBE trucking company is performing a commercially useful function and what portion of the DBE work can be counted toward DBE goals:

- (1) **DBE must control all work.** To be considered as performing a commercially useful function, the DBE must be responsible for the management and supervision of the entire trucking operation for which it is responsible on a particular contract, and there cannot be a contrived arrangement for the purpose of meeting DBE goals.
- (2) **DBE must "own" at least one truck.** The DBE must itself own and operate at least one fully licensed, insured, and operational truck used on the project. For purposes of this section, a DBE will be considered to "own" a truck if:
  - a) the truck is titled in the DBE's name; or,
  - b) the DBE leases the truck under a valid lease-to-own agreement and the driver of the truck is an employee of the DBE.The DBE must submit documentation to SCDOT to establish the number of trucks the DBE owns, operates and insures. The DBE must submit the documentation to SCDOT's Office of Business Development and Special Programs at the time of certification, annual reporting on certification requirements, or at any time during the year that the DBE obtains additional trucks.
- (3) **Counting DBE trucking toward DBE goal.** The Contractor can count toward DBE goals the total value of the transportation services the DBE provides using trucks the DBE owns, insures, and operates using drivers the DBE employs.
- (4) **Counting subcontracted DBE trucking toward DBE goal.** The DBE may subcontract with another DBE firm, including an owner-operator who is certified as a DBE, to provide trucks on a project. In this case, the Contractor may count toward the DBE goal the total value of the transportation services provided by the DBE subcontractor.
- (5) **Counting subcontracted non-DBE trucking toward the goal.** The DBE may subcontract with a non-DBE firm, including an owner-operator, to provide trucks on a



project. Prior to beginning work, the DBE must provide SCDOT's Resident Construction Engineer with a list identifying all DBE and non-DBE trucks and truck numbers that will be used on the project. In this case, the Contractor may count toward the DBE goal the total value of the transportation services provided in each quarter by the non-DBE trucks, not to exceed the value of the transportation services provided by DBE-owned trucks in that quarter. For example, in a given quarter, if DBE-owned trucks provide transportation services of \$50,000, while non-DBE trucks provide transportation services of \$75,000, a maximum of \$100,000 can be counted toward the DBE goal in that quarter.

NOTE: DBE firms may not receive credit for DBE participation when leasing non-DBE owned trucks from the Prime contractor the DBE firm is subcontracted with as 49 CFR 26.55(a)(1) applies.

E. DBE Manufacturers and Dealers. The Contractor can count expenditures with DBEs for materials or supplies toward DBE goals in accordance with the following rules:

- (1) *DBE Manufacturers*. If the materials or supplies are obtained from a DBE manufacturer, the Contractor can count 100 percent of the cost of the materials or supplies toward DBE goals. For purposes of this paragraph, a manufacturer is a firm that operates or maintains a factory or establishment that produces, on the premises, the materials, supplies, articles, or equipment required under the contract and of the general character described by the specifications. The DBE must be listed as a "manufacturer" in the SCDOT's DBE directory to be considered a manufacturer for purposes of these counting rules.
- (2) *DBE Dealers*. If the materials or supplies are purchased from a DBE regular dealer, the Contractor can count 60 percent of the cost of the materials or supplies toward DBE goals. For purposes of this section, a regular dealer is a firm that owns, operates, or maintains a store, warehouse, or other establishment in which the materials, supplies, articles or equipment of the general character described by the specifications and required under the contract are bought, kept in stock, and regularly sold or leased to the public in the usual course of business. The DBE must be listed as a "dealer" in the SCDOT's DBE directory to be considered a dealer for purposes of these counting rules.
- (3) *DBE Brokers*. The Contractor cannot count toward the DBE goal fees charged by a DBE who is neither a manufacturer nor a dealer. In this case the DBE is merely a broker of the supplies or materials.

5. Joint Checks. The Director of Construction must approve all requests for a Contractor to issue and use joint checks with a DBE. The following conditions apply:

- a) The DBE must submit a request to the Director of Construction which includes a formalized agreement between all parties that specify the conditions under which the arrangement will be permitted;
- b) The DBE remains responsible for all other elements of 26.55(c)(1). SCDOT must clearly determine that independence is not threatened because the DBE retains final decision making responsibility;
- c) There can be no requirement by the prime contractor that a DBE use a specific supplier nor the prime contractors negotiated unit price.

## 6. REPORTS

The Contractor shall furnish to the SCDOT the following reports and information. THIS REQUIREMENT APPLIES REGARDLESS OF WHETHER THERE IS A CONTRACT GOAL ASSIGNED TO THE CONTRACT.

A. DBE Quarterly Reports. The Contractor shall provide to the SCDOT DBE Quarterly Reports showing the dollar amount of payments to each certified DBE. The Contractor and each DBE that received payment must sign the report. The Contractor's and DBE's signature on the Quarterly Report shall constitute certification that the DBE has performed the work and that the Contractor is entitled to credit toward the DBE goal for the amount shown in accordance with the counting rules set forth in Section 4. The report shall include the amount paid each DBE for the quarter and the total amount paid to each DBE on the contract. The report must include DBE subcontractors, hauling firms, and suppliers. The report shall be submitted in duplicate to the Resident Construction Engineer by the 15th of the month after each calendar quarter (January, April, July, and October 15). Failure to submit the quarterly report may result in the withholding of monthly progress and/or final payment. The Quarterly Report must be submitted for each quarter even if no payments have been made to a DBE in that quarter. When no payments have been made to a DBE in a quarter, DBE's are not required to sign the report.

B. Trucker's Reports. All DBE haulers must complete and submit a DBE Trucker's Report along with the DBE quarterly report when the DBE leases trucks from another firm. The DBE hauler must list all trucks leased, payments made to the lessee during the quarter, and identify whether leased truck is owned by a certified DBE or non-DBE. DBE Haulers must also submit one copy of each lease agreement to the RCE prior to the start of work for each truck leased. A lease must indicate that the DBE has exclusive use of and control over the truck. This does not preclude the leased truck from working for others during the term of the lease with the consent of the DBE, so long as the lease gives the DBE absolute priority for use of the leased truck. Leased trucks must display the name and identification number of the DBE.

C. Other Documents. Upon request of SCDOT, the Contractor and all subcontractors shall furnish documents, including subcontracts, necessary to verify the amount and costs of the materials or services provided by certified DBE suppliers or subcontractors. The Contractor shall keep the documents that verify this information for at least three years from the date of final settlement of the contract. Failure to provide these documents upon request may result in the withholding of monthly progress and/or final payment or disqualifying the Contractor from bidding pursuant to Regulation 63-306, Volume 25A of the S.C. Code of Laws.

## **7. CONTRACT COMPLETION – DETERMINATION OF WHETHER CONTRACTOR HAS MET THE GOAL OR MADE GOOD FAITH EFFORTS**

a. Review by SCDOT. After receipt of the final DBE Quarterly Reports, the SCDOT will review the necessary contract documentation to determine whether the Contractor has met the DBE commitments and contract goal.

b. Notification of Failure to Meet Goal. If the documentation indicates that the Contractor has not met the DBE commitments and contract goal, the Director of Construction will notify the Contractor and request documentation of the Contractor's good faith efforts to meet the goal.

c. Determination of Good Faith Efforts. The Contractor shall submit documentation demonstrating good faith efforts to meet the contract commitments and goal to the Director of Construction within 30 days of the date of the "Notification of Failure to Meet Goal." The Director of Construction will provide the Contractor with written notice of SCDOT's determination whether good faith efforts have been demonstrated.

d. Request for Reconsideration. If the Contractor disagrees with SCDOT's determination, the Contractor may request a reconsideration by filing a written request with the Director of Construction within ten (10) days after receipt of the determination. The Contractor shall submit any additional documentation that it wishes to be considered in support of its position. If the Contractor fails to request a reconsideration within ten (10) days, the determination shall be final. If the Contractor requests reconsideration, the State Highway Engineer shall appoint an official who did not take part in the original determination (hereinafter referred to as the "Reconsideration Official"). The Reconsideration Official will contact the Contractor and schedule a meeting with the Contractor. The meeting will be held at the SCDOT Headquarters Building in Columbia. At the meeting, the Contractor will have an opportunity to present oral and written evidence to demonstrate that good faith efforts were made to meet the DBE commitments and contract goal. The Reconsideration Official may also consider evidence presented by SCDOT at the same meeting.

After the meeting, the Reconsideration Official will issue a written report and recommendation to the State Highway Engineer. The State Highway Engineer shall make the final decision on the issue. The Director of Construction will notify the Contractor of the final decision in writing.

August 7, 1991

## **LATE DISCOVERY OF ARCHAEOLOGICAL/HISTORICAL REMAINS ON FEDERAL AID PROJECTS AND APPROVAL OF DESIGNATED BORROW PITS**

### A. Late Discovery of Archaeological/Historical Remains on Federal Aid Projects.

#### 1. Responsibilities:

The Contractor and subcontractors must notify their workers to watch for the presence of any prehistoric or historic remains, including but not limited to arrowheads, pottery, ceramics, flakes, bones, graves, gravestones, or brick concentrations. If any such cultural remains are encountered, the Resident Construction Engineer shall be immediately notified and all work in the vicinity of the discovered materials or site shall cease until the Department's Staff Archaeologist or the State Highway Engineer directs otherwise.

#### 2. Applicability:

This provision covers all areas of ground disturbance resulting from this federal - aid contract, including but not limited to road construction, Department designated borrow pits, Contractor furnished borrow pits, and/or staging areas.

#### 3. Cost Reimbursement and Time Delays:

Any extra work required by A(1) above within the project right of way or on Department designated borrow pits (see below) will be paid for in accordance with Subsection 104.05 of the Standard Specifications. Extra contract time may be provided under Subsection 108.06 of the Standard Specifications for archaeological work within the project right of way or on designated borrow pits.

NOTE: On Contractor furnished borrow pits the contractor is not entitled to any additional time or money for delay on impact resulting from A(1) above or for extra work required by A(1) above. Therefore, contractors may wish to retain professional archaeological services to better ensure that borrow pit areas are cleared of archaeological/historical remains prior to use on Federal aid projects.

### B. Approval of Designated Borrow Pits on Federal Aid Projects (Plant Sites which qualify as commercial are not included).

In instances where the Department specifically designates the location of borrow pits on project plans or in contract specifications for use on a Federal aid project, an archaeological survey will be performed by Department archaeologists prior to award of contract.

This provision also applies to designated disposal sites, staging areas, haul roads, and job site field offices.

General Decision Number: SC120045 01/06/2012 SC45

Superseded General Decision Number: SC20100072

State: South Carolina

Construction Type: Highway

Counties: Aiken and Edgefield Counties in South Carolina.

DOES NOT INCLUDE SAVANNAH RIVER SITE IN AIKEN COUNTY

HIGHWAY CONSTRUCTION PROJECTS (excluding tunnels, building structures in rest area projects & railroad construction; bascule, suspension & spandrel arch bridges designed for commercial navigation, bridges involving marine construction; and other major bridges).

Modification Number      Publication Date  
0                              01/06/2012

SUSC2011-036 09/15/2011

	Rates	Fringes
CARPENTER (Form Work Only).....	\$ 13.73	
CEMENT MASON/CONCRETE FINISHER...\$	13.16	
IRONWORKER, REINFORCING.....\$	15.02	
LABORER		
Asphalt Includes Aspalt		
Distributor, Shoveler, and		
Spreader.....	\$ 11.54	
Common or General.....	\$ 9.04	
Luteman.....	\$ 11.61	
Mason Tender-		
Cement/Concrete.....	\$ 10.40	
Pipelayer.....	\$ 14.46	
Traffic Control-Cone Setter.\$	10.87	
Traffic Control-Flagger.....\$	11.07	
POWER EQUIPMENT OPERATOR:		
Backhoe/Excavator/Trackhoe..\$	15.20	
Bulldozer.....	\$ 17.38	
Crane.....	\$ 18.93	
Grader/Blade.....	\$ 17.87	
Hydroseeder.....	\$ 11.00	
Loader (Front End).....	\$ 16.31	
Mechanic.....	\$ 15.25	
Milling Machine.....	\$ 11.84	
Paver.....	\$ 13.93	
Roller.....	\$ 14.09	
Scraper.....	\$ 12.71	
Screed.....	\$ 13.56	
Tractor.....	\$ 13.28	

TRUCK DRIVER

Dump Truck.....\$ 12.25  
Lowboy Truck.....\$ 14.11

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WELDERS - Receive rate prescribed for craft performing operation to which welding is incidental.

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Unlisted classifications needed for work not included within the scope of the classifications listed may be added after award only as provided in the labor standards contract clauses (29CFR 5.5 (a) (1) (ii)).

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The body of each wage determination lists the classification and wage rates that have been found to be prevailing for the cited type(s) of construction in the area covered by the wage determination. The classifications are listed in alphabetical order of "identifiers" that indicate whether the particular rate is union or non-union.

Union Identifiers

An identifier enclosed in dotted lines beginning with characters other than "SU" denotes that the union classification and rate have found to be prevailing for that classification. Example: PLUM0198-005 07/01/2011. The first four letters , PLUM, indicate the international union and the four-digit number, 0198, that follows indicates the local union number or district council number where applicable , i.e., Plumbers Local 0198. The next number, 005 in the example, is an internal number used in processing the wage determination. The date, 07/01/2011, following these characters is the effective date of the most current negotiated rate/collective bargaining agreement which would be July 1, 2011 in the above example.

Union prevailing wage rates will be updated to reflect any changes in the collective bargaining agreements governing the rate.

Non-Union Identifiers

Classifications listed under an "SU" identifier were derived from survey data by computing average rates and are not union rates; however, the data used in computing these rates may include both union and non-union data. Example: SULA2004-007 5/13/2010. SU indicates the rates are not union rates, LA indicates the State of Louisiana; 2004 is the year of the survey; and 007 is an internal number used in producing the wage determination. A 1993 or later date, 5/13/2010, indicates the classifications and rates under that identifier were issued as a General Wage Determination on that date.

Survey wage rates will remain in effect and will not change until a new survey is conducted.

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WAGE DETERMINATION APPEALS PROCESS

1.) Has there been an initial decision in the matter? This can be:

- \* an existing published wage determination
- \* a survey underlying a wage determination
- \* a Wage and Hour Division letter setting forth a position on a wage determination matter
- \* a conformance (additional classification and rate) ruling

On survey related matters, initial contact, including requests for summaries of surveys, should be with the Wage and Hour Regional Office for the area in which the survey was conducted because those Regional Offices have responsibility for the Davis-Bacon survey program. If the response from this initial contact is not satisfactory, then the process described in 2.) and 3.) should be followed.

With regard to any other matter not yet ripe for the formal process described here, initial contact should be with the Branch of Construction Wage Determinations. Write to:

Branch of Construction Wage Determinations  
Wage and Hour Division  
U.S. Department of Labor  
200 Constitution Avenue, N.W.  
Washington, DC 20210

2.) If the answer to the question in 1.) is yes, then an interested party (those affected by the action) can request review and reconsideration from the Wage and Hour Administrator (See 29 CFR Part 1.8 and 29 CFR Part 7). Write to:

Wage and Hour Administrator  
U.S. Department of Labor  
200 Constitution Avenue, N.W.  
Washington, DC 20210

The request should be accompanied by a full statement of the interested party's position and by any information (wage payment data, project description, area practice material, etc.) that the requestor considers relevant to the issue.

3.) If the decision of the Administrator is not favorable, an interested party may appeal directly to the Administrative Review Board (formerly the Wage Appeals Board). Write to:

Administrative Review Board  
U.S. Department of Labor  
200 Constitution Avenue, N.W.  
Washington, DC 20210

4.) All decisions by the Administrative Review Board are final.

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END OF GENERAL DECISION

FHWA-1273 -- Revised May 1, 2012

**REQUIRED CONTRACT PROVISIONS  
FEDERAL-AID CONSTRUCTION  
CONTRACTS**

- I. General
- II. Nondiscrimination
- III. Nonsegregated Facilities
- IV. Davis-Bacon and Related Act Provisions
- V. Contract Work Hours and Safety Standards Act Provisions
- VI. Subletting or Assigning the Contract
- VII. Safety: Accident Prevention
- VIII. False Statements Concerning Highway Projects
- IX. Implementation of Clean Air Act and Federal Water Pollution Control Act
- X. Compliance with Governmentwide Suspension and Debarment Requirements
- XI. Certification Regarding Use of Contract Funds for Lobbying

**ATTACHMENTS**

A. Employment and Materials Preference for Appalachian Development Highway System or Appalachian Local Access Road Contracts (included in Appalachian contracts only)

**I. GENERAL**

1. Form FHWA-1273 must be physically incorporated in each construction contract funded under Title 23 (excluding emergency contracts solely intended for debris removal). The contractor (or subcontractor) must insert this form in each subcontract and further require its inclusion in all lower tier subcontracts (excluding purchase orders, rental agreements and other agreements for supplies or services).

The applicable requirements of Form FHWA-1273 are incorporated by reference for work done under any purchase order, rental agreement or agreement for other services. The prime contractor shall be responsible for compliance by any subcontractor, lower-tier subcontractor or service provider.

Form FHWA-1273 must be included in all Federal-aid design-build contracts, in all subcontracts and in lower tier subcontracts (excluding subcontracts for design services, purchase orders, rental agreements and other agreements for supplies or services). The design-builder shall be responsible for compliance by any subcontractor, lower-tier subcontractor or service provider.

Contracting agencies may reference Form FHWA-1273 in bid proposal or request for proposal documents, however, the Form FHWA-1273 must be physically incorporated (not referenced) in all contracts, subcontracts and lower-tier subcontracts (excluding purchase orders, rental agreements and other agreements for supplies or services related to a construction contract).

2. Subject to the applicability criteria noted in the following sections, these contract provisions shall apply to all work performed on the contract by the contractor's own organization and with the assistance of workers under the contractor's immediate superintendence and to all work performed on the contract by piecework, station work, or by subcontract.

3. A breach of any of the stipulations contained in these Required Contract Provisions may be sufficient grounds for withholding of progress payments, withholding of final payment, termination of the contract, suspension / debarment or any other action determined to be appropriate by the contracting agency and FHWA.

4. Selection of Labor: During the performance of this contract, the contractor shall not use convict labor for any purpose within the limits of a construction project on a Federal-aid highway unless it is labor performed by convicts who are on parole, supervised release, or probation. The term Federal-aid highway does not include roadways functionally classified as local roads or rural minor collectors.

**II. NONDISCRIMINATION**

The provisions of this section related to 23 CFR Part 230 are applicable to all Federal-aid construction contracts and to all related construction subcontracts of \$10,000 or more. The provisions of 23 CFR Part 230 are not applicable to material supply, engineering, or architectural service contracts.

In addition, the contractor and all subcontractors must comply with the following policies: Executive Order 11246,



41 CFR 60, 29 CFR 1625-1627, Title 23 USC Section 140, the Rehabilitation Act of 1973, as amended (29 USC 794), Title VI of the Civil Rights Act of 1964, as amended, and related regulations including 49 CFR Parts 21, 26 and 27; and 23 CFR Parts 200, 230, and 633.

The contractor and all subcontractors must comply with: the requirements of the Equal Opportunity Clause in 41 CFR 60-1.4(b) and, for all construction contracts exceeding \$10,000, the Standard Federal Equal Employment Opportunity Construction Contract Specifications in 41 CFR 60-4.3.

Note: The U.S. Department of Labor has exclusive authority to determine compliance with Executive Order 11246 and the policies of the Secretary of Labor including 41 CFR 60, and 29 CFR 1625-1627. The contracting agency and the FHWA have the authority and the responsibility to ensure compliance with Title 23 USC Section 140, the Rehabilitation Act of 1973, as amended (29 USC 794), and Title VI of the Civil Rights Act of 1964, as amended, and related regulations including 49 CFR Parts 21, 26 and 27; and 23 CFR Parts 200, 230, and 633.

The following provision is adopted from 23 CFR 230, Appendix A, with appropriate revisions to conform to the U.S. Department of Labor (US DOL) and FHWA requirements.

**1. Equal Employment Opportunity:** Equal employment opportunity (EEO) requirements not to discriminate and to take affirmative action to assure equal opportunity as set forth under laws, executive orders, rules, regulations (28 CFR 35, 29 CFR 1630, 29 CFR 1625-1627, 41 CFR 60 and 49 CFR 27) and orders of the Secretary of Labor as modified by the provisions prescribed herein, and imposed pursuant to 23 U.S.C. 140 shall constitute the EEO and specific affirmative action standards for the contractor's project activities under this contract. The provisions of the Americans with Disabilities Act of 1990 (42 U.S.C. 12101 et seq.) set forth under 28 CFR 35 and 29 CFR 1630 are incorporated by reference in this contract. In the execution of this contract, the contractor agrees to comply with the following minimum specific requirement activities of EEO:

a. The contractor will work with the contracting agency and the Federal Government to ensure that it has made every good faith effort to provide equal opportunity with respect to all of its terms and conditions of employment and in their review of activities under the contract.

b. The contractor will accept as its operating policy the following statement:

"It is the policy of this Company to assure that applicants are employed, and that employees are treated during employment, without regard to their race, religion, sex, color, national origin, age or disability. Such action shall include: employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship, pre-apprenticeship, and/or on-the-job training."

**2. EEO Officer:** The contractor will designate and make known to the contracting officers an EEO Officer who will have the responsibility for and must be capable of effectively administering and promoting an active EEO program and who must be assigned adequate authority and responsibility to do so.

**3. Dissemination of Policy:** All members of the contractor's staff who are authorized to hire, supervise, promote, and discharge employees, or who recommend such action, or who are substantially involved in such action, will be made fully cognizant of, and will implement, the contractor's EEO policy and contractual responsibilities to

provide EEO in each grade and classification of employment. To ensure that the above agreement will be met, the following actions will be taken as a minimum:

a. Periodic meetings of supervisory and personnel office employees will be conducted before the start of work and then not less often than once every six months, at which time the contractor's EEO policy and its implementation will be reviewed and explained. The meetings will be conducted by the EEO Officer.

b. All new supervisory or personnel office employees will be given a thorough indoctrination by the EEO Officer, covering all major aspects of the contractor's EEO obligations within thirty days following their reporting for duty with the contractor.

c. All personnel who are engaged in direct recruitment for the project will be instructed by the EEO Officer in the contractor's procedures for locating and hiring minorities and women.

d. Notices and posters setting forth the contractor's EEO policy will be placed in areas readily accessible to employees, applicants for employment and potential employees.

e. The contractor's EEO policy and the procedures to implement such policy will be brought to the attention of employees by means of meetings, employee handbooks, or other appropriate means.

**4. Recruitment:** When advertising for employees, the contractor will include in all advertisements for employees the notation: "An Equal Opportunity Employer." All such advertisements will be placed in publications having a large circulation among minorities and women in the area from which the project work force would normally be derived.

a. The contractor will, unless precluded by a valid bargaining agreement, conduct systematic and direct recruitment through public and private employee referral sources likely to yield qualified minorities and women. To meet this requirement, the contractor will identify sources of potential minority group employees, and establish with such identified sources procedures whereby minority and women applicants may be referred to the contractor for employment consideration.

b. In the event the contractor has a valid bargaining agreement providing for exclusive hiring hall referrals, the contractor is expected to observe the provisions of that agreement to the extent that the system meets the contractor's compliance with EEO contract provisions. Where implementation of such an agreement has the effect of discriminating against minorities or women, or obligates the contractor to do the same, such implementation violates Federal nondiscrimination provisions.

c. The contractor will encourage its present employees to refer minorities and women as applicants for employment. Information and procedures with regard to referring such applicants will be discussed with employees.

**5. Personnel Actions:** Wages, working conditions, and employee benefits shall be established and administered, and personnel actions of every type, including hiring, upgrading, promotion, transfer, demotion, layoff, and termination, shall be taken without regard to race, color, religion, sex, national origin, age or disability. The following procedures shall be followed:

a. The contractor will conduct periodic inspections of project sites to insure that working conditions and employee facilities do not indicate discriminatory treatment of project site personnel.

b. The contractor will periodically evaluate the spread of wages paid within each classification to determine any evidence of discriminatory wage practices.

c. The contractor will periodically review selected personnel actions in depth to determine whether there is evidence of discrimination. Where evidence is found, the contractor will promptly take corrective action. If the review indicates that the discrimination may extend beyond the actions reviewed, such corrective action shall include all affected persons.

d. The contractor will promptly investigate all complaints of alleged discrimination made to the contractor in connection with its obligations under this contract, will attempt to resolve such complaints, and will take appropriate corrective action within a reasonable time. If the investigation indicates that the discrimination may affect persons other than the complainant, such corrective action shall include such other persons. Upon completion of each investigation, the contractor will inform every complainant of all of their avenues of appeal.

#### **6. Training and Promotion:**

a. The contractor will assist in locating, qualifying, and increasing the skills of minorities and women who are applicants for employment or current employees. Such efforts should be aimed at developing full journey level status employees in the type of trade or job classification involved.

b. Consistent with the contractor's work force requirements and as permissible under Federal and State regulations, the contractor shall make full use of training programs, i.e., apprenticeship, and on-the-job training programs for the geographical area of contract performance. In the event a special provision for training is provided under this contract, this subparagraph will be superseded as indicated in the special provision. The contracting agency may reserve training positions for persons who receive welfare assistance in accordance with 23 U.S.C. 140(a).

c. The contractor will advise employees and applicants for employment of available training programs and entrance requirements for each.

d. The contractor will periodically review the training and promotion potential of employees who are minorities and women and will encourage eligible employees to apply for such training and promotion.

**7. Unions:** If the contractor relies in whole or in part upon unions as a source of employees, the contractor will use good faith efforts to obtain the cooperation of such unions to increase opportunities for minorities and women. Actions by the contractor, either directly or through a contractor's association acting as agent, will include the procedures set forth below:

a. The contractor will use good faith efforts to develop, in cooperation with the unions, joint training programs aimed toward qualifying more minorities and women for membership in the unions and increasing the skills of minorities and women so that they may qualify for higher paying employment.

b. The contractor will use good faith efforts to incorporate an EEO clause into each union agreement to the end that such union will be contractually bound to refer applicants without regard to their race, color, religion, sex, national origin, age or disability.

c. The contractor is to obtain information as to the referral practices and policies of the labor union except that to the extent such information is within the exclusive possession of

the labor union and such labor union refuses to furnish such information to the contractor, the contractor shall so certify to the contracting agency and shall set forth what efforts have been made to obtain such information.

d. In the event the union is unable to provide the contractor with a reasonable flow of referrals within the time limit set forth in the collective bargaining agreement, the contractor will, through independent recruitment efforts, fill the employment vacancies without regard to race, color, religion, sex, national origin, age or disability; making full efforts to obtain qualified and/or qualifiable minorities and women. The failure of a union to provide sufficient referrals (even though it is obligated to provide exclusive referrals under the terms of a collective bargaining agreement) does not relieve the contractor from the requirements of this paragraph. In the event the union referral practice prevents the contractor from meeting the obligations pursuant to Executive Order 11246, as amended, and these special provisions, such contractor shall immediately notify the contracting agency.

#### **8. Reasonable Accommodation for Applicants / Employees with Disabilities:**

The contractor must be familiar with the requirements for and comply with the Americans with Disabilities Act and all rules and regulations established there under. Employers must provide reasonable accommodation in all employment activities unless to do so would cause an undue hardship.

#### **9. Selection of Subcontractors, Procurement of Materials and Leasing of Equipment:**

The contractor shall not discriminate on the grounds of race, color, religion, sex, national origin, age or disability in the selection and retention of subcontractors, including procurement of materials and leases of equipment. The contractor shall take all necessary and reasonable steps to ensure nondiscrimination in the administration of this contract.

a. The contractor shall notify all potential subcontractors and suppliers and lessors of their EEO obligations under this contract.

b. The contractor will use good faith efforts to ensure subcontractor compliance with their EEO obligations.

#### **10. Assurance Required by 49 CFR 26.13(b):**

a. The requirements of 49 CFR Part 26 and the State DOT's U.S. DOT-approved DBE program are incorporated by reference.

b. The contractor or subcontractor shall not discriminate on the basis of race, color, national origin, or sex in the performance of this contract. The contractor shall carry out applicable requirements of 49 CFR Part 26 in the award and administration of DOT-assisted contracts. Failure by the contractor to carry out these requirements is a material breach of this contract, which may result in the termination of this contract or such other remedy as the contracting agency deems appropriate.

**11. Records and Reports:** The contractor shall keep such records as necessary to document compliance with the EEO requirements. Such records shall be retained for a period of three years following the date of the final payment to the contractor for all contract work and shall be available at reasonable times and places for inspection by authorized representatives of the contracting agency and the FHWA.

a. The records kept by the contractor shall document the following:

(1) The number and work hours of minority and non-minority group members and women employed in each work classification on the project;

(2) The progress and efforts being made in cooperation with unions, when applicable, to increase employment opportunities for minorities and women; and

(3) The progress and efforts being made in locating, hiring, training, qualifying, and upgrading minorities and women;

b. The contractors and subcontractors will submit an annual report to the contracting agency each July for the duration of the project, indicating the number of minority, women, and non-minority group employees currently engaged in each work classification required by the contract work. This information is to be reported on [Form FHWA-1391](#). The staffing data should represent the project work force on board in all or any part of the last payroll period preceding the end of July. If on-the-job training is being required by special provision, the contractor will be required to collect and report training data. The employment data should reflect the work force on board during all or any part of the last payroll period preceding the end of July.

### III. NONSEGREGATED FACILITIES

This provision is applicable to all Federal-aid construction contracts and to all related construction subcontracts of \$10,000 or more.

The contractor must ensure that facilities provided for employees are provided in such a manner that segregation on the basis of race, color, religion, sex, or national origin cannot result. The contractor may neither require such segregated use by written or oral policies nor tolerate such use by employee custom. The contractor's obligation extends further to ensure that its employees are not assigned to perform their services at any location, under the contractor's control, where the facilities are segregated. The term "facilities" includes waiting rooms, work areas, restaurants and other eating areas, time clocks, restrooms, washrooms, locker rooms, and other storage or dressing areas, parking lots, drinking fountains, recreation or entertainment areas, transportation, and housing provided for employees. The contractor shall provide separate or single-user restrooms and necessary dressing or sleeping areas to assure privacy between sexes.

### IV. Davis-Bacon and Related Act Provisions

This section is applicable to all Federal-aid construction projects exceeding \$2,000 and to all related subcontracts and lower-tier subcontracts (regardless of subcontract size). The requirements apply to all projects located within the right-of-way of a roadway that is functionally classified as Federal-aid highway. This excludes roadways functionally classified as local roads or rural minor collectors, which are exempt. Contracting agencies may elect to apply these requirements to other projects.

The following provisions are from the U.S. Department of Labor regulations in 29 CFR 5.5 "Contract provisions and related matters" with minor revisions to conform to the FHWA-1273 format and FHWA program requirements.

#### 1. Minimum wages

a. All laborers and mechanics employed or working upon the site of the work, will be paid unconditionally and not less often than once a week, and without subsequent deduction or rebate on any account (except such payroll deductions as are permitted by regulations issued by the Secretary of Labor under the Copeland Act (29 CFR part 3)), the full amount of wages and bona fide fringe benefits (or cash equivalents thereof) due at time of payment computed at rates not less than those contained in the wage

determination of the Secretary of Labor which is attached hereto and made a part hereof, regardless of any contractual relationship which may be alleged to exist between the contractor and such laborers and mechanics.

Contributions made or costs reasonably anticipated for bona fide fringe benefits under section 1(b)(2) of the Davis-Bacon Act on behalf of laborers or mechanics are considered wages paid to such laborers or mechanics, subject to the provisions of paragraph 1.d. of this section; also, regular contributions made or costs incurred for more than a weekly period (but not less often than quarterly) under plans, funds, or programs which cover the particular weekly period, are deemed to be constructively made or incurred during such weekly period. Such laborers and mechanics shall be paid the appropriate wage rate and fringe benefits on the wage determination for the classification of work actually performed, without regard to skill, except as provided in 29 CFR 5.5(a)(4). Laborers or mechanics performing work in more than one classification may be compensated at the rate specified for each classification for the time actually worked therein: Provided, That the employer's payroll records accurately set forth the time spent in each classification in which work is performed. The wage determination (including any additional classification and wage rates conformed under paragraph 1.b. of this section) and the Davis-Bacon poster (WH-1321) shall be posted at all times by the contractor and its subcontractors at the site of the work in a prominent and accessible place where it can be easily seen by the workers.

b. (1) The contracting officer shall require that any class of laborers or mechanics, including helpers, which is not listed in the wage determination and which is to be employed under the contract shall be classified in conformance with the wage determination. The contracting officer shall approve an additional classification and wage rate and fringe benefits therefore only when the following criteria have been met:

(i) The work to be performed by the classification requested is not performed by a classification in the wage determination; and

(ii) The classification is utilized in the area by the construction industry; and

(iii) The proposed wage rate, including any bona fide fringe benefits, bears a reasonable relationship to the wage rates contained in the wage determination.

(2) If the contractor and the laborers and mechanics to be employed in the classification (if known), or their representatives, and the contracting officer agree on the classification and wage rate (including the amount designated for fringe benefits where appropriate), a report of the action taken shall be sent by the contracting officer to the Administrator of the Wage and Hour Division, Employment Standards Administration, U.S. Department of Labor, Washington, DC 20210. The Administrator, or an authorized representative, will approve, modify, or disapprove every additional classification action within 30 days of receipt and so advise the contracting officer or will notify the contracting officer within the 30-day period that additional time is necessary.

(3) In the event the contractor, the laborers or mechanics to be employed in the classification or their representatives, and the contracting officer do not agree on the proposed classification and wage rate (including the amount designated for fringe benefits, where appropriate), the contracting officer shall refer the questions, including the views of all interested parties and the recommendation of the contracting officer, to the Wage and Hour Administrator for determination. The Wage and Hour Administrator, or an authorized representative, will issue a

determination within 30 days of receipt and so advise the contracting officer or will notify the contracting officer within the 30-day period that additional time is necessary.

(4) The wage rate (including fringe benefits where appropriate) determined pursuant to paragraphs 1.b.(2) or 1.b.(3) of this section, shall be paid to all workers performing work in the classification under this contract from the first day on which work is performed in the classification.

c. Whenever the minimum wage rate prescribed in the contract for a class of laborers or mechanics includes a fringe benefit which is not expressed as an hourly rate, the contractor shall either pay the benefit as stated in the wage determination or shall pay another bona fide fringe benefit or an hourly cash equivalent thereof.

d. If the contractor does not make payments to a trustee or other third person, the contractor may consider as part of the wages of any laborer or mechanic the amount of any costs reasonably anticipated in providing bona fide fringe benefits under a plan or program, Provided, That the Secretary of Labor has found, upon the written request of the contractor, that the applicable standards of the Davis-Bacon Act have been met. The Secretary of Labor may require the contractor to set aside in a separate account assets for the meeting of obligations under the plan or program.

## 2. Withholding

The contracting agency shall upon its own action or upon written request of an authorized representative of the Department of Labor, withhold or cause to be withheld from the contractor under this contract, or any other Federal contract with the same prime contractor, or any other federally-assisted contract subject to Davis-Bacon prevailing wage requirements, which is held by the same prime contractor, so much of the accrued payments or advances as may be considered necessary to pay laborers and mechanics, including apprentices, trainees, and helpers, employed by the contractor or any subcontractor the full amount of wages required by the contract. In the event of failure to pay any laborer or mechanic, including any apprentice, trainee, or helper, employed or working on the site of the work, all or part of the wages required by the contract, the contracting agency may, after written notice to the contractor, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds until such violations have ceased.

## 3. Payrolls and basic records

a. Payrolls and basic records relating thereto shall be maintained by the contractor during the course of the work and preserved for a period of three years thereafter for all laborers and mechanics working at the site of the work. Such records shall contain the name, address, and social security number of each such worker, his or her correct classification, hourly rates of wages paid (including rates of contributions or costs anticipated for bona fide fringe benefits or cash equivalents thereof of the types described in section 1(b)(2)(B) of the Davis-Bacon Act), daily and weekly number of hours worked, deductions made and actual wages paid. Whenever the Secretary of Labor has found under 29 CFR 5.5(a)(1)(iv) that the wages of any laborer or mechanic include the amount of any costs reasonably anticipated in providing benefits under a plan or program described in section 1(b)(2)(B) of the Davis-Bacon Act, the contractor shall maintain records which show that the commitment to provide such benefits is enforceable, that the plan or program is financially responsible, and that the plan or program has been communicated in writing to the laborers or mechanics affected, and records which show the costs anticipated or the actual cost incurred in providing such benefits. Contractors employing apprentices or trainees

under approved programs shall maintain written evidence of the registration of apprenticeship programs and certification of trainee programs, the registration of the apprentices and trainees, and the ratios and wage rates prescribed in the applicable programs.

b. (1) The contractor shall submit weekly for each week in which any contract work is performed a copy of all payrolls to the contracting agency. The payrolls submitted shall set out accurately and completely all of the information required to be maintained under 29 CFR 5.5(a)(3)(i), except that full social security numbers and home addresses shall not be included on weekly transmittals. Instead the payrolls shall only need to include an individually identifying number for each employee (e.g., the last four digits of the employee's social security number). The required weekly payroll information may be submitted in any form desired. Optional Form WH-347 is available for this purpose from the Wage and Hour Division Web site at <http://www.dol.gov/esa/whd/forms/wh347instr.htm> or its successor site. The prime contractor is responsible for the submission of copies of payrolls by all subcontractors. Contractors and subcontractors shall maintain the full social security number and current address of each covered worker, and shall provide them upon request to the contracting agency for transmission to the State DOT, the FHWA or the Wage and Hour Division of the Department of Labor for purposes of an investigation or audit of compliance with prevailing wage requirements. It is not a violation of this section for a prime contractor to require a subcontractor to provide addresses and social security numbers to the prime contractor for its own records, without weekly submission to the contracting agency..

(2) Each payroll submitted shall be accompanied by a "Statement of Compliance," signed by the contractor or subcontractor or his or her agent who pays or supervises the payment of the persons employed under the contract and shall certify the following:

(i) That the payroll for the payroll period contains the information required to be provided under §5.5 (a)(3)(ii) of Regulations, 29 CFR part 5, the appropriate information is being maintained under §5.5 (a)(3)(i) of Regulations, 29 CFR part 5, and that such information is correct and complete;

(ii) That each laborer or mechanic (including each helper, apprentice, and trainee) employed on the contract during the payroll period has been paid the full weekly wages earned, without rebate, either directly or indirectly, and that no deductions have been made either directly or indirectly from the full wages earned, other than permissible deductions as set forth in Regulations, 29 CFR part 3;

(iii) That each laborer or mechanic has been paid not less than the applicable wage rates and fringe benefits or cash equivalents for the classification of work performed, as specified in the applicable wage determination incorporated into the contract.

(3) The weekly submission of a properly executed certification set forth on the reverse side of Optional Form WH-347 shall satisfy the requirement for submission of the "Statement of Compliance" required by paragraph 3.b.(2) of this section.

(4) The falsification of any of the above certifications may subject the contractor or subcontractor to civil or criminal prosecution under section 1001 of title 18 and section 231 of title 31 of the United States Code.

c. The contractor or subcontractor shall make the records required under paragraph 3.a. of this section available for inspection, copying, or transcription by authorized

representatives of the contracting agency, the State DOT, the FHWA, or the Department of Labor, and shall permit such representatives to interview employees during working hours on the job. If the contractor or subcontractor fails to submit the required records or to make them available, the FHWA may, after written notice to the contractor, the contracting agency or the State DOT, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds. Furthermore, failure to submit the required records upon request or to make such records available may be grounds for debarment action pursuant to 29 CFR 5.12.

#### 4. Apprentices and trainees

##### a. Apprentices (programs of the USDOL).

Apprentices will be permitted to work at less than the predetermined rate for the work they performed when they are employed pursuant to and individually registered in a bona fide apprenticeship program registered with the U.S. Department of Labor, Employment and Training Administration, Office of Apprenticeship Training, Employer and Labor Services, or with a State Apprenticeship Agency recognized by the Office, or if a person is employed in his or her first 90 days of probationary employment as an apprentice in such an apprenticeship program, who is not individually registered in the program, but who has been certified by the Office of Apprenticeship Training, Employer and Labor Services or a State Apprenticeship Agency (where appropriate) to be eligible for probationary employment as an apprentice.

The allowable ratio of apprentices to journeymen on the job site in any craft classification shall not be greater than the ratio permitted to the contractor as to the entire work force under the registered program. Any worker listed on a payroll at an apprentice wage rate, who is not registered or otherwise employed as stated above, shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any apprentice performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. Where a contractor is performing construction on a project in a locality other than that in which its program is registered, the ratios and wage rates (expressed in percentages of the journeyman's hourly rate) specified in the contractor's or subcontractor's registered program shall be observed.

Every apprentice must be paid at not less than the rate specified in the registered program for the apprentice's level of progress, expressed as a percentage of the journeymen hourly rate specified in the applicable wage determination. Apprentices shall be paid fringe benefits in accordance with the provisions of the apprenticeship program. If the apprenticeship program does not specify fringe benefits, apprentices must be paid the full amount of fringe benefits listed on the wage determination for the applicable classification. If the Administrator determines that a different practice prevails for the applicable apprentice classification, fringes shall be paid in accordance with that determination.

In the event the Office of Apprenticeship Training, Employer and Labor Services, or a State Apprenticeship Agency recognized by the Office, withdraws approval of an apprenticeship program, the contractor will no longer be permitted to utilize apprentices at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

##### b. Trainees (programs of the USDOL).

Except as provided in 29 CFR 5.16, trainees will not be permitted to work at less than the predetermined rate for the

work performed unless they are employed pursuant to and individually registered in a program which has received prior approval, evidenced by formal certification by the U.S. Department of Labor, Employment and Training Administration.

The ratio of trainees to journeymen on the job site shall not be greater than permitted under the plan approved by the Employment and Training Administration.

Every trainee must be paid at not less than the rate specified in the approved program for the trainee's level of progress, expressed as a percentage of the journeyman hourly rate specified in the applicable wage determination. Trainees shall be paid fringe benefits in accordance with the provisions of the trainee program. If the trainee program does not mention fringe benefits, trainees shall be paid the full amount of fringe benefits listed on the wage determination unless the Administrator of the Wage and Hour Division determines that there is an apprenticeship program associated with the corresponding journeyman wage rate on the wage determination which provides for less than full fringe benefits for apprentices. Any employee listed on the payroll at a trainee rate who is not registered and participating in a training plan approved by the Employment and Training Administration shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any trainee performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed.

In the event the Employment and Training Administration withdraws approval of a training program, the contractor will no longer be permitted to utilize trainees at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

c. Equal employment opportunity. The utilization of apprentices, trainees and journeymen under this part shall be in conformity with the equal employment opportunity requirements of Executive Order 11246, as amended, and 29 CFR part 30.

##### d. Apprentices and Trainees (programs of the U.S. DOT).

Apprentices and trainees working under apprenticeship and skill training programs which have been certified by the Secretary of Transportation as promoting EEO in connection with Federal-aid highway construction programs are not subject to the requirements of paragraph 4 of this Section IV. The straight time hourly wage rates for apprentices and trainees under such programs will be established by the particular programs. The ratio of apprentices and trainees to journeymen shall not be greater than permitted by the terms of the particular program.

**5. Compliance with Copeland Act requirements.** The contractor shall comply with the requirements of 29 CFR part 3, which are incorporated by reference in this contract.

**6. Subcontracts.** The contractor or subcontractor shall insert Form FHWA-1273 in any subcontracts and also require the subcontractors to include Form FHWA-1273 in any lower tier subcontracts. The prime contractor shall be responsible for the compliance by any subcontractor or lower tier subcontractor with all the contract clauses in 29 CFR 5.5.

**7. Contract termination: debarment.** A breach of the contract clauses in 29 CFR 5.5 may be grounds for termination of the contract, and for debarment as a contractor and a subcontractor as provided in 29 CFR 5.12.

**8. Compliance with Davis-Bacon and Related Act requirements.** All rulings and interpretations of the Davis-Bacon and Related Acts contained in 29 CFR parts 1, 3, and 5 are herein incorporated by reference in this contract.

**9. Disputes concerning labor standards.** Disputes arising out of the labor standards provisions of this contract shall not be subject to the general disputes clause of this contract. Such disputes shall be resolved in accordance with the procedures of the Department of Labor set forth in 29 CFR parts 5, 6, and 7. Disputes within the meaning of this clause include disputes between the contractor (or any of its subcontractors) and the contracting agency, the U.S. Department of Labor, or the employees or their representatives.

**10. Certification of eligibility.**

a. By entering into this contract, the contractor certifies that neither it (nor he or she) nor any person or firm who has an interest in the contractor's firm is a person or firm ineligible to be awarded Government contracts by virtue of section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1).

b. No part of this contract shall be subcontracted to any person or firm ineligible for award of a Government contract by virtue of section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1).

c. The penalty for making false statements is prescribed in the U.S. Criminal Code, 18 U.S.C. 1001.

**V. CONTRACT WORK HOURS AND SAFETY STANDARDS ACT**

The following clauses apply to any Federal-aid construction contract in an amount in excess of \$100,000 and subject to the overtime provisions of the Contract Work Hours and Safety Standards Act. These clauses shall be inserted in addition to the clauses required by 29 CFR 5.5(a) or 29 CFR 4.6. As used in this paragraph, the terms laborers and mechanics include watchmen and guards.

**1. Overtime requirements.** No contractor or subcontractor contracting for any part of the contract work which may require or involve the employment of laborers or mechanics shall require or permit any such laborer or mechanic in any workweek in which he or she is employed on such work to work in excess of forty hours in such workweek unless such laborer or mechanic receives compensation at a rate not less than one and one-half times the basic rate of pay for all hours worked in excess of forty hours in such workweek.

**2. Violation; liability for unpaid wages; liquidated damages.** In the event of any violation of the clause set forth in paragraph (1.) of this section, the contractor and any subcontractor responsible therefor shall be liable for the unpaid wages. In addition, such contractor and subcontractor shall be liable to the United States (in the case of work done under contract for the District of Columbia or a territory, to such District or to such territory), for liquidated damages. Such liquidated damages shall be computed with respect to each individual laborer or mechanic, including watchmen and guards, employed in violation of the clause set forth in paragraph (1.) of this section, in the sum of \$10 for each calendar day on which such individual was required or permitted to work in excess of the standard workweek of forty hours without payment of the overtime wages required by the clause set forth in paragraph (1.) of this section.

**3. Withholding for unpaid wages and liquidated damages.** The FHWA or the contacting agency shall upon its own action or upon written request of an authorized representative of the Department of Labor withhold or cause

to be withheld, from any moneys payable on account of work performed by the contractor or subcontractor under any such contract or any other Federal contract with the same prime contractor, or any other federally-assisted contract subject to the Contract Work Hours and Safety Standards Act, which is held by the same prime contractor, such sums as may be determined to be necessary to satisfy any liabilities of such contractor or subcontractor for unpaid wages and liquidated damages as provided in the clause set forth in paragraph (2.) of this section.

**4. Subcontracts.** The contractor or subcontractor shall insert in any subcontracts the clauses set forth in paragraph (1.) through (4.) of this section and also a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The prime contractor shall be responsible for compliance by any subcontractor or lower tier subcontractor with the clauses set forth in paragraphs (1.) through (4.) of this section.

**VI. SUBLETTING OR ASSIGNING THE CONTRACT**

This provision is applicable to all Federal-aid construction contracts on the National Highway System.

1. The contractor shall perform with its own organization contract work amounting to not less than 30 percent (or a greater percentage if specified elsewhere in the contract) of the total original contract price, excluding any specialty items designated by the contracting agency. Specialty items may be performed by subcontract and the amount of any such specialty items performed may be deducted from the total original contract price before computing the amount of work required to be performed by the contractor's own organization (23 CFR 635.116).

a. The term "perform work with its own organization" refers to workers employed or leased by the prime contractor, and equipment owned or rented by the prime contractor, with or without operators. Such term does not include employees or equipment of a subcontractor or lower tier subcontractor, agents of the prime contractor, or any other assignees. The term may include payments for the costs of hiring leased employees from an employee leasing firm meeting all relevant Federal and State regulatory requirements. Leased employees may only be included in this term if the prime contractor meets all of the following conditions:

(1) the prime contractor maintains control over the supervision of the day-to-day activities of the leased employees;

(2) the prime contractor remains responsible for the quality of the work of the leased employees;

(3) the prime contractor retains all power to accept or exclude individual employees from work on the project; and

(4) the prime contractor remains ultimately responsible for the payment of predetermined minimum wages, the submission of payrolls, statements of compliance and all other Federal regulatory requirements.

b. "Specialty Items" shall be construed to be limited to work that requires highly specialized knowledge, abilities, or equipment not ordinarily available in the type of contracting organizations qualified and expected to bid or propose on the contract as a whole and in general are to be limited to minor components of the overall contract.

2. The contract amount upon which the requirements set forth in paragraph (1) of Section VI is computed includes the cost of material and manufactured products which are to be purchased or produced by the contractor under the contract provisions.

3. The contractor shall furnish (a) a competent superintendent or supervisor who is employed by the firm, has full authority to direct performance of the work in accordance with the contract requirements, and is in charge of all construction operations (regardless of who performs the work) and (b) such other of its own organizational resources (supervision, management, and engineering services) as the contracting officer determines is necessary to assure the performance of the contract.

4. No portion of the contract shall be sublet, assigned or otherwise disposed of except with the written consent of the contracting officer, or authorized representative, and such consent when given shall not be construed to relieve the contractor of any responsibility for the fulfillment of the contract. Written consent will be given only after the contracting agency has assured that each subcontract is evidenced in writing and that it contains all pertinent provisions and requirements of the prime contract.

5. The 30% self-performance requirement of paragraph (1) is not applicable to design-build contracts; however, contracting agencies may establish their own self-performance requirements.

## **VII. SAFETY: ACCIDENT PREVENTION**

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts.

1. In the performance of this contract the contractor shall comply with all applicable Federal, State, and local laws governing safety, health, and sanitation (23 CFR 635). The contractor shall provide all safeguards, safety devices and protective equipment and take any other needed actions as it determines, or as the contracting officer may determine, to be reasonably necessary to protect the life and health of employees on the job and the safety of the public and to protect property in connection with the performance of the work covered by the contract.

2. It is a condition of this contract, and shall be made a condition of each subcontract, which the contractor enters into pursuant to this contract, that the contractor and any subcontractor shall not permit any employee, in performance of the contract, to work in surroundings or under conditions which are unsanitary, hazardous or dangerous to his/her health or safety, as determined under construction safety and health standards (29 CFR 1926) promulgated by the Secretary of Labor, in accordance with Section 107 of the Contract Work Hours and Safety Standards Act (40 U.S.C. 3704).

3. Pursuant to 29 CFR 1926.3, it is a condition of this contract that the Secretary of Labor or authorized representative thereof, shall have right of entry to any site of contract performance to inspect or investigate the matter of compliance with the construction safety and health standards and to carry out the duties of the Secretary under Section 107 of the Contract Work Hours and Safety Standards Act (40 U.S.C.3704).

## **VIII. FALSE STATEMENTS CONCERNING HIGHWAY PROJECTS**

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts.

In order to assure high quality and durable construction in conformity with approved plans and specifications and a high degree of reliability on statements and representations made by engineers, contractors, suppliers, and workers on Federal-aid highway projects, it is essential that all persons concerned with the project perform their functions as

carefully, thoroughly, and honestly as possible. Willful falsification, distortion, or misrepresentation with respect to any facts related to the project is a violation of Federal law. To prevent any misunderstanding regarding the seriousness of these and similar acts, Form FHWA-1022 shall be posted on each Federal-aid highway project (23 CFR 635) in one or more places where it is readily available to all persons concerned with the project:

18 U.S.C. 1020 reads as follows:

"Whoever, being an officer, agent, or employee of the United States, or of any State or Territory, or whoever, whether a person, association, firm, or corporation, knowingly makes any false statement, false representation, or false report as to the character, quality, quantity, or cost of the material used or to be used, or the quantity or quality of the work performed or to be performed, or the cost thereof in connection with the submission of plans, maps, specifications, contracts, or costs of construction on any highway or related project submitted for approval to the Secretary of Transportation; or

Whoever knowingly makes any false statement, false representation, false report or false claim with respect to the character, quality, quantity, or cost of any work performed or to be performed, or materials furnished or to be furnished, in connection with the construction of any highway or related project approved by the Secretary of Transportation; or

Whoever knowingly makes any false statement or false representation as to material fact in any statement, certificate, or report submitted pursuant to provisions of the Federal-aid Roads Act approved July 1, 1916, (39 Stat. 355), as amended and supplemented;

Shall be fined under this title or imprisoned not more than 5 years or both."

## **IX. IMPLEMENTATION OF CLEAN AIR ACT AND FEDERAL WATER POLLUTION CONTROL ACT**

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts.

By submission of this bid/proposal or the execution of this contract, or subcontract, as appropriate, the bidder, proposer, Federal-aid construction contractor, or subcontractor, as appropriate, will be deemed to have stipulated as follows:

1. That any person who is or will be utilized in the performance of this contract is not prohibited from receiving an award due to a violation of Section 508 of the Clean Water Act or Section 306 of the Clean Air Act.

2. That the contractor agrees to include or cause to be included the requirements of paragraph (1) of this Section X in every subcontract, and further agrees to take such action as the contracting agency may direct as a means of enforcing such requirements.

## **X. CERTIFICATION REGARDING DEBARMENT, SUSPENSION, INELIGIBILITY AND VOLUNTARY EXCLUSION**

This provision is applicable to all Federal-aid construction contracts, design-build contracts, subcontracts, lower-tier subcontracts, purchase orders, lease agreements, consultant contracts or any other covered transaction requiring FHWA approval or that is estimated to cost \$25,000 or more – as defined in 2 CFR Parts 180 and 1200.

### **1. Instructions for Certification – First Tier Participants:**

a. By signing and submitting this proposal, the prospective first tier participant is providing the certification set out below.

b. The inability of a person to provide the certification set out below will not necessarily result in denial of participation in this covered transaction. The prospective first tier participant shall submit an explanation of why it cannot provide the certification set out below. The certification or explanation will be considered in connection with the department or agency's determination whether to enter into this transaction. However, failure of the prospective first tier participant to furnish a certification or an explanation shall disqualify such a person from participation in this transaction.

c. The certification in this clause is a material representation of fact upon which reliance was placed when the contracting agency determined to enter into this transaction. If it is later determined that the prospective participant knowingly rendered an erroneous certification, in addition to other remedies available to the Federal Government, the contracting agency may terminate this transaction for cause of default.

d. The prospective first tier participant shall provide immediate written notice to the contracting agency to whom this proposal is submitted if any time the prospective first tier participant learns that its certification was erroneous when submitted or has become erroneous by reason of changed circumstances.

e. The terms "covered transaction," "debarred," "suspended," "ineligible," "participant," "person," "principal," and "voluntarily excluded," as used in this clause, are defined in 2 CFR Parts 180 and 1200. "First Tier Covered Transactions" refers to any covered transaction between a grantee or subgrantee of Federal funds and a participant (such as the prime or general contract). "Lower Tier Covered Transactions" refers to any covered transaction under a First Tier Covered Transaction (such as subcontracts). "First Tier Participant" refers to the participant who has entered into a covered transaction with a grantee or subgrantee of Federal funds (such as the prime or general contractor). "Lower Tier Participant" refers any participant who has entered into a covered transaction with a First Tier Participant or other Lower Tier Participants (such as subcontractors and suppliers).

f. The prospective first tier participant agrees by submitting this proposal that, should the proposed covered transaction be entered into, it shall not knowingly enter into any lower tier covered transaction with a person who is debarred, suspended, declared ineligible, or voluntarily excluded from participation in this covered transaction, unless authorized by the department or agency entering into this transaction.

g. The prospective first tier participant further agrees by submitting this proposal that it will include the clause titled "Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion-Lower Tier Covered Transactions," provided by the department or contracting agency, entering into this covered transaction, without modification, in all lower tier covered transactions and in all solicitations for lower tier covered transactions exceeding the \$25,000 threshold.

h. A participant in a covered transaction may rely upon a certification of a prospective participant in a lower tier covered transaction that is not debarred, suspended, ineligible, or voluntarily excluded from the covered transaction, unless it knows that the certification is erroneous. A participant is responsible for ensuring that its principals are not suspended, debarred, or otherwise ineligible to participate in covered transactions. To verify the

eligibility of its principals, as well as the eligibility of any lower tier prospective participants, each participant may, but is not required to, check the Excluded Parties List System website (<https://www.epls.gov/>), which is compiled by the General Services Administration.

i. Nothing contained in the foregoing shall be construed to require the establishment of a system of records in order to render in good faith the certification required by this clause. The knowledge and information of the prospective participant is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.

j. Except for transactions authorized under paragraph (f) of these instructions, if a participant in a covered transaction knowingly enters into a lower tier covered transaction with a person who is suspended, debarred, ineligible, or voluntarily excluded from participation in this transaction, in addition to other remedies available to the Federal Government, the department or agency may terminate this transaction for cause or default.

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## **2. Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion – First Tier Participants:**

a. The prospective first tier participant certifies to the best of its knowledge and belief, that it and its principals:

(1) Are not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participating in covered transactions by any Federal department or agency;

(2) Have not within a three-year period preceding this proposal been convicted of or had a civil judgment rendered against them for commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (Federal, State or local) transaction or contract under a public transaction; violation of Federal or State antitrust statutes or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, or receiving stolen property;

(3) Are not presently indicted for or otherwise criminally or civilly charged by a governmental entity (Federal, State or local) with commission of any of the offenses enumerated in paragraph (a)(2) of this certification; and

(4) Have not within a three-year period preceding this application/proposal had one or more public transactions (Federal, State or local) terminated for cause or default.

b. Where the prospective participant is unable to certify to any of the statements in this certification, such prospective participant shall attach an explanation to this proposal.

## **2. Instructions for Certification - Lower Tier Participants:**

(Applicable to all subcontracts, purchase orders and other lower tier transactions requiring prior FHWA approval or estimated to cost \$25,000 or more - 2 CFR Parts 180 and 1200)

a. By signing and submitting this proposal, the prospective lower tier is providing the certification set out below.

b. The certification in this clause is a material representation of fact upon which reliance was placed when this transaction was entered into. If it is later determined that the prospective lower tier participant knowingly rendered an erroneous certification, in addition to other remedies



available to the Federal Government, the department, or agency with which this transaction originated may pursue available remedies, including suspension and/or debarment.

c. The prospective lower tier participant shall provide immediate written notice to the person to which this proposal is submitted if at any time the prospective lower tier participant learns that its certification was erroneous by reason of changed circumstances.

d. The terms "covered transaction," "debarred," "suspended," "ineligible," "participant," "person," "principal," and "voluntarily excluded," as used in this clause, are defined in 2 CFR Parts 180 and 1200. You may contact the person to which this proposal is submitted for assistance in obtaining a copy of those regulations. "First Tier Covered Transactions" refers to any covered transaction between a grantee or subgrantee of Federal funds and a participant (such as the prime or general contract). "Lower Tier Covered Transactions" refers to any covered transaction under a First Tier Covered Transaction (such as subcontracts). "First Tier Participant" refers to the participant who has entered into a covered transaction with a grantee or subgrantee of Federal funds (such as the prime or general contractor). "Lower Tier Participant" refers any participant who has entered into a covered transaction with a First Tier Participant or other Lower Tier Participants (such as subcontractors and suppliers).

e. The prospective lower tier participant agrees by submitting this proposal that, should the proposed covered transaction be entered into, it shall not knowingly enter into any lower tier covered transaction with a person who is debarred, suspended, declared ineligible, or voluntarily excluded from participation in this covered transaction, unless authorized by the department or agency with which this transaction originated.

f. The prospective lower tier participant further agrees by submitting this proposal that it will include this clause titled "Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion-Lower Tier Covered Transaction," without modification, in all lower tier covered transactions and in all solicitations for lower tier covered transactions exceeding the \$25,000 threshold.

g. A participant in a covered transaction may rely upon a certification of a prospective participant in a lower tier covered transaction that is not debarred, suspended, ineligible, or voluntarily excluded from the covered transaction, unless it knows that the certification is erroneous. A participant is responsible for ensuring that its principals are not suspended, debarred, or otherwise ineligible to participate in covered transactions. To verify the eligibility of its principals, as well as the eligibility of any lower tier prospective participants, each participant may, but is not required to, check the Excluded Parties List System website (<https://www.epls.gov/>), which is compiled by the General Services Administration.

h. 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 this clause. The knowledge and information of participant is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.

i. Except for transactions authorized under paragraph e of these instructions, if a participant in a covered transaction knowingly enters into a lower tier covered transaction with a person who is suspended, debarred, ineligible, or voluntarily excluded from participation in this transaction, in addition to other remedies available to the Federal Government, the department or agency with which this transaction originated may pursue available remedies, including suspension and/or debarment.

\* \* \* \* \*

#### **Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion--Lower Tier Participants:**

1. The prospective lower tier participant certifies, by submission of this proposal, that neither it nor its principals is presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participating in covered transactions by any Federal department or agency.

2. Where the prospective lower tier participant is unable to certify to any of the statements in this certification, such prospective participant shall attach an explanation to this proposal.

\* \* \* \* \*

#### **XI. CERTIFICATION REGARDING USE OF CONTRACT FUNDS FOR LOBBYING**

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts which exceed \$100,000 (49 CFR 20).

1. The prospective participant certifies, by signing and submitting this bid or proposal, to the best of his or her knowledge and belief, that:

a. No Federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of any Federal agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.

b. If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any Federal agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form-LLL, "Disclosure Form to Report Lobbying," in accordance with its instructions.

2. This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by 31 U.S.C. 1352. Any person who fails to file the required certification shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each such failure.

3. The prospective participant also agrees by submitting its bid or proposal that the participant shall require that the language of this certification be included in all lower tier subcontracts, which exceed \$100,000 and that all such recipients shall certify and disclose accordingly.

**ATTACHMENT A - EMPLOYMENT AND MATERIALS PREFERENCE FOR APPALACHIAN DEVELOPMENT HIGHWAY SYSTEM OR APPALACHIAN LOCAL ACCESS ROAD CONTRACTS**

This provision is applicable to all Federal-aid projects funded under the Appalachian Regional Development Act of 1965.

1. During the performance of this contract, the contractor undertaking to do work which is, or reasonably may be, done as on-site work, shall give preference to qualified persons who regularly reside in the labor area as designated by the DOL wherein the contract work is situated, or the subregion, or the Appalachian counties of the State wherein the contract work is situated, except:

a. To the extent that qualified persons regularly residing in the area are not available.

b. For the reasonable needs of the contractor to employ supervisory or specially experienced personnel necessary to assure an efficient execution of the contract work.

c. For the obligation of the contractor to offer employment to present or former employees as the result of a lawful collective bargaining contract, provided that the number of nonresident persons employed under this subparagraph (1c) shall not exceed 20 percent of the total number of employees employed by the contractor on the contract work, except as provided in subparagraph (4) below.

2. The contractor shall place a job order with the State Employment Service indicating (a) the classifications of the laborers, mechanics and other employees required to perform the contract work, (b) the number of employees

required in each classification, (c) the date on which the participant estimates such employees will be required, and (d) any other pertinent information required by the State Employment Service to complete the job order form. The job order may be placed with the State Employment Service in writing or by telephone. If during the course of the contract work, the information submitted by the contractor in the original job order is substantially modified, the participant shall promptly notify the State Employment Service.

3. The contractor shall give full consideration to all qualified job applicants referred to him by the State Employment Service. The contractor is not required to grant employment to any job applicants who, in his opinion, are not qualified to perform the classification of work required.

4. If, within one week following the placing of a job order by the contractor with the State Employment Service, the State Employment Service is unable to refer any qualified job applicants to the contractor, or less than the number requested, the State Employment Service will forward a certificate to the contractor indicating the unavailability of applicants. Such certificate shall be made a part of the contractor's permanent project records. Upon receipt of this certificate, the contractor may employ persons who do not normally reside in the labor area to fill positions covered by the certificate, notwithstanding the provisions of subparagraph (1c) above.

5. The provisions of 23 CFR 633.207(e) allow the contracting agency to provide a contractual preference for the use of mineral resource materials native to the Appalachian region.



**SPECIAL PROVISIONS**  
**AND**  
**SUPPLEMENTAL SPECIFICATIONS**

**(13) STANDARDS AND REFERENCES:**

This project is to be constructed under the SCDOT 2007 Standard Specifications for Highway Construction, the 2009 SCDOT Standard Drawings, the SCDOT 2004 Construction Manual, the SCDOT Supplemental Technical Specifications in effect at the time of the letting, and the following Special Provisions:

The above noted publications are available on the internet as follows, or may be obtained from the SCDOT Engineering Publications office at (803) 737-4533 or via e-mail at [engrpubsales@dot.state.sc.us](mailto:engrpubsales@dot.state.sc.us)

SCDOT 2007 Standard Specifications for Highway Construction	<a href="http://www.scdot.org/doing/const_man.shtml">http://www.scdot.org/doing/const_man.shtml</a>
2013 SCDOT Standard Drawings	<a href="http://www.scdot.org/doing/sd_disclaimer.shtml">http://www.scdot.org/doing/sd_disclaimer.shtml</a>
SCDOT 2004 Construction Manual	<a href="http://www.scdot.org/doing/constructionmanual.shtml">http://www.scdot.org/doing/constructionmanual.shtml</a>
SCDOT Supplemental Technical Specifications	<a href="http://www.scdot.org/doing/sup_tech_specs.shtml">http://www.scdot.org/doing/sup_tech_specs.shtml</a>
South Carolina Manual on Uniform Traffic Control Devices (SCMUTCD)	<a href="http://www.scdot.org/doing/pdfs/ARMS_2008.pdf">http://www.scdot.org/doing/pdfs/ARMS_2008.pdf</a>
Approved Products List for Traffic Control Devices in Work Zones	<a href="http://www.scdot.org/doing/pdfs/NCHRP350List-ALL2_.pdf">http://www.scdot.org/doing/pdfs/NCHRP350List-ALL2_.pdf</a>

**(14) ERRATA TO 2007 STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION:**

See attached Supplemental Specification dated **May 4, 2009**.

**(15) SECTION 101: STANDARD DRAWINGS:**

The Bidders are hereby advised that this project shall be constructed using the 2013 Standard Drawings with all updates effective at the time of the letting. The Standard Drawings are available for download at [http://www.scdot.org/doing/sd\\_disclaimer.shtml](http://www.scdot.org/doing/sd_disclaimer.shtml). All drawings that are updated are labeled with their effective letting date in red.

The Standard Drawings are available to purchase through the SCDOT Engineering Publications Sales Center. The Engineering Publication Sales Center is located in Room G-19 (basement level) of the SCDOT Headquarters Building, 955 Park Street, Columbia, South Carolina.

All references in the plans, standard specifications, supplemental specifications, supplemental technical specifications or special provisions to drawings under the previous numbering system are hereby updated to the new drawing numbers. Refer to sheets 000-205-01 through 000-205-07 to find new drawing numbers when looking for references to older drawing numbers.

**(16) SECTION 106: QUALIFIED PRODUCT LISTINGS**

All references to "Approval Sheet" or "Approval Policy" are to be replaced with "Qualified Products Listings (QPL)" and "Qualified Products Policies (QPP)" respectively. This change includes all references in the SCDOT Standard Drawings, SCDOT Standard Specifications, SCDOT Supplemental Specifications, SCDOT Special Provisions, SCDOT Supplemental Technical Specifications, SCDOT Internet and Intranet websites, and all other documents produced by SCDOT.

(17) **SECTION 106: SOUTH CAROLINA MINING ACT:**  
See Attached Supplemental Specification Dated **March 20, 2003.**

This Supplemental Specification is hereby modified as follows:

Paragraph 9 is hereby deleted and replaced with the following:

The deputy secretary for engineering, or his duly appointed representative, will make a final inspection of the reclaimed area and keep a permanent record of his approval thereof. A map or sketch providing the location and approximate acreage of each pit used on the project will be provided to the resident construction engineer for inclusion in the final plans.

The last paragraph is hereby deleted and replaced with the following:

The contractor shall comply with the provisions of the plan that are applicable to the project as determined by the engineer. Seeding or other work necessary to comply with the plan on pits furnished by the contractor shall be at the expense of the contractor. Seeding shall be in accordance with SC-M-810 (latest version) which can be found at [http://scdot.org/doing/sup\\_tech\\_specs.shtml](http://scdot.org/doing/sup_tech_specs.shtml).

(18) **SECTION 107: CRANE SAFETY (REVISED 05/1/2011):**  
**CRANE SAFETY:**

The contractor's attention is directed to the following Crane Safety criteria. All applicable items under the submittal list section shall be submitted to the Resident Construction Engineer (RCE) before any crane operations may begin. If any personnel or equipment is changed or added, all applicable items shall be updated and submitted to the RCE before continuing with crane(s) operations.

All contractors shall comply with the manufacturer specifications and limitations applicable to the operation of any and all cranes and derricks. Prime contractors and sub-contractors shall comply with the latest Occupational Safety and Health Administration (OSHA) regulations, adopted American National Standards Institute (ANSI) and American Society of Mechanical Engineers (ASME) crane standards, and other applicable standards including, but not limited to the following:

- OSHA 29 CFR 1926 Subpart CC "Cranes and Derricks in Construction"
- OSHA 29 CFR 1926.251 "Rigging Equipment for Material Handling"
- ASME B30.5-2007 "Mobile and Locomotive Cranes"
- ASME B30.8-2010 "Floating Cranes and Floating Derricks"
- ASME B30.22-2005 "Articulating Boom Cranes"
- ASME B30.26-2010 "Rigging Hardware"

**Submittal List**

1. **Crane Operators:** All crane operators shall be certified by the National Commission for the Certification of Crane Operators (NCCCO), National Center for Construction Education and Research (NCCER), or Crane Institute of America Certification (CIC).
  - a. Contractor shall submit a copy of the NCCCO, NCCER, or CIC certification for each crane operator prior to performing any crane operations on the job site. The original certification card shall be available for review upon request and must remain current within a 5 year expiration date for the duration of the job. (Contractors with a crane operator-in- training on the jobsite shall comply with all the OSHA Subpart CC requirements).

- b. Contractor shall submit a copy of the current Crane Operators Medical Evaluation card (3 year expiration) in the form of NCCCO, NCCER or CIC Physical Examination form or equivalent meeting the ASME B30.5 requirement or a current USDOT Medical Examiner's Certificate card (2 year expiration). The original medical card or equivalent for all crane operators shall be available for review upon request.

2. **Competent Person:** The named competent person will have the responsibility and authority to stop any work activity due to safety concerns.

- a. Contractor shall submit the name and qualifications of the "Competent Person" as defined by OSHA Subpart CC responsible for all crane safety and lifting operations.

**(19) SECTION 107: CONTRACT PROVISION TO REQUIRE CERTIFICATION AND COMPLIANCE CONCERNING ILLEGAL ALIENS**

By submission of this bid, the bidder as the prime contractor does hereby agree:

- a. to certify its compliance with the requirements of Chapter 14 of Title 8 of the S.C. Code of Laws regarding Unauthorized Aliens and Public Employment;
- b. to provide SCDOT with any documents required to establish such compliance upon request; and
- c. to register and participate and require agreement from subcontractors and sub-subcontractors to register and participate in the federal work authorization program to verify the employment authorization of all new employees, or to employ only workers who supply the documents required pursuant to S.C.Code 8-14-20(B)(2).

**(20) DIVISION 600, Etal.: ADHESIVELY BONDED ANCHORS AND DOWELS:**

See attached Supplemental Specification dated **September 1, 2008**.

This Supplemental Specification applies when Adhesively Bonded Anchors or Dowels are called for in the Plans or Detailed Drawings.

The following Standard Drawings have been identified as showing Adhesively Bonded Anchors or Dowels:

605-205-03	Temporary Concrete Barrier
605-210-04	Temporary Concrete Barrier
605-310-01	Temporary Concrete Barrier
605-315-00	Temporary Concrete Barrier
605-320-00	Temporary Concrete Barrier
605-325-00	Temporary Concrete Barrier
605-330-00	Temporary Concrete Barrier
651-105-00	Barrier Mounted Sign Post
657-100-00	Overhead Sign Support Roadway Bridges
722-105-01	Box Culvert (Used to connect headwall, wingwalls, and for extensions)
805-120-00	Guardrail (W Beam) Base Plate Connection
805-405-03	Guardrail (Tubular Beam) Bridge Railing
805-405-04	Guardrail (Tubular Beam) Bridge Railing
806-505-00	Fence (Ornamental Steel Picket)

It is the contractor's responsibility to determine if Adhesively Bonded Anchors or Dowels are a part of the project, and to comply with the provisions of the Supplemental Specification.

**(21) DIVISION 600: MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES:**

The Contractor is advised that all work involving design or installation of traffic control devices, including but not limited to signs, pavement markings, elements of work zone traffic control, signals, etc., shall be in compliance with the FHWA's Manual on Uniform Traffic Control Devices (MUTCD), latest edition. The latest edition is defined as the edition that the Traffic Engineering Division of SCDOT recognizes as having been officially adopted (Engineering Directive, Memorandum 19) at the time the project is let, unless stated otherwise in the Special Provisions.

**(22) SECTION 810: CO-PERMITTEE AGREEMENT & CONTRACTOR CERTIFICATION**

See attached Co-Permittee Agreement & Contractor Certification Form. In accordance with the NPDES General Permit (effective September 1, 2006), all Contractors and Sub-contractors must sign the Co-Permittee Agreement or the Contractor Certification, based on work being performed, prior to beginning work. Section 1 of the form must be signed by all Contractors and Sub-contractors performing land disturbing activities. This applies to all clearing and grubbing, grading operations, drainage installation, curb and gutter, sidewalk, bridge construction, culvert construction, erosion control, seeding, utilities, etc. Section 2 must be signed by all Contractors and Sub-contractors performing non-land disturbing activities. A Contractor or Sub-contractor that has not signed the agreement will not be permitted to perform work on this project. No additional compensation will be made in association with this agreement.

**(23) SECTION 815: EROSION CONTROL MEASURES:**

See attached Supplemental Specification dated **January 1, 2009**.

May 4, 2009

## ERRATA TO 2007 STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION

Make the changes listed below to correct errata in the SDCOT *2007 Standard Specifications for Highway Construction*:

### DIVISION 100 GENERAL PROVISIONS

#### SECTION 101 DEFINITIONS AND TERMS

##### Subsection 101.2 Abbreviations and Acronyms

Amend the table of **SCDOT OFFICIALS AND OFFICES** as follows:

DELETIONS		REPLACEMENTS	
<del>BDE*</del>	<del>Bridge Design Engineer</del>	PSE*	Preconstruction Support Engineer
<del>BDGE*</del>	<del>Bridge Design Geotechnical Engineer</del>	GDSE*	Geotechnical Design Support Engineer
<del>SHE*</del>	<del>State Highway Engineer</del>	DSE*	Deputy Secretary for Engineering

\*Wherever it appears in the text, replace the deleted abbreviation with the new abbreviation.

#### SECTION 102 BIDDING REQUIREMENTS AND CONDITIONS

##### Subsection 102.8 Irregular Bids

Paragraph 2, item E, first sentence; delete the word "the" after the word "When".

#### SECTION 105 CONTROL OF WORK

##### Subsection 105.6 Cooperation with Utilities

Paragraph 1, last sentence; change the word "THE" to "the".

### DIVISION 200 EARTHWORK

#### SECTION 202 REMOVAL OF STRUCTURES AND OBSTRUCTIONS

##### Subsection 202.5 Measurement

Paragraph 5, second bullet; change the words "Brick sidewalk" to "Concrete, brick or stone sidewalks".

#### SECTION 204 STRUCTURE EXCAVATION

##### Subsection 204.2.1.2 Structure Excavation for Culverts

Paragraph 1, at the end of the first sentence; change "**Subsection 204.4**" to "**Subsection 204.5**".

### DIVISION 400 ASPHALT PAVEMENTS

#### SECTION 401 HOT MIXED ASPHALT (HMA) PAVEMENT

##### Subsection 401.2.1.2 Liquid Anti-Stripping Agent

Paragraph 1, first sentence; delete the period at the end of the sentence and add "and SC-M-406."

##### Subsection 401.2.5 Material for Full Depth Patching



Paragraph 1, delete and replace with the following:

"Use an approved SCDOT Intermediate Type C mix for all Full Depth Patching."

**Subsection 401.5 Measurement**

After paragraph 10, add the following paragraph:

- 11 The measurement of Prime Coat is the number of gallons of asphalt material applied to the completed and accepted base course.

**Subsection 401.6 Payment**

After paragraph 12, add the following paragraph:

- 13 "The payment for Prime Coat is at the contract unit price for Prime Coat and includes compensation for all labor, equipment, tools, maintenance, and incidentals necessary to complete that work."

**Subsection 401.6 Payment**

Paragraph 13, **Table of Pay Items**

Change paragraph reference number "13" to "14" and add the following Pay Item:

Item No.	Pay Item	Unit
4010005	Prime Coat	GAL

**SECTION 403 HMA SURFACE COURSE**

**Subsection 403.5 Measurement**

Paragraph 1, first sentence; change "HMA Intermediate Course" to "HMA Surface Course".

**Subsection 403.6 Payment**

Paragraph 1, first sentence; change "HMA Intermediate Course" to "HMA Surface Course".

**SECTION 407 ASPHALT SURFACE TREATMENT – DOUBLE TREATMENT**

**Subsection 407.5 Measurement**

Paragraph 1, first sentence; add the word "is" after "(Double Treatment Type (1, 2, 3, 4, or 5))".

**SECTION 408 ASPHALT SURFACE TREATMENT – TRIPLE TREATMENT**

**Subsection 408.5 Measurement**

Paragraph 1, first sentence; add the word "is" after "(Triple Treatment Type (1 or 2))".

**DIVISION 600 MAINTENANCE AND TRAFFIC CONTROL**

**SECTION 625 PERMANENT PAVEMENT MARKINGS  
FAST DRY WATERBOURNE PAINT**

**Subsection 625.2.2.4.11 Lead Content**

Paragraph 1, first sentence; change 6% to 0.06%.

**SECTION 627 THERMOPLASTIC PAVEMENT MARKINGS**

**Subsection 627.4.10 Inspection and Acceptance of Work**

Paragraph 2, first sentence; change "period of 90 days" to "period of 180 days".

**Subsection 627.4.10 Inspection and Acceptance of Work**

Paragraph 2, second sentence; change "90-day observation period" to "180-day observation period".

**Subsection 627.4.10 Inspection and Acceptance of Work**

Paragraph 3, first sentence; change "90-day period" to "180-day period".

## **DIVISION 700 STRUCTURES**

### **SECTION 709 STRUCTURAL STEEL**

#### **Subsection 709.4.3.5.2 Submittals and Notification**

Paragraph 1, delete the last two sentences and replace them with, "The Department's review and acceptance are required before any field welding will be permitted."

#### **Subsection 709.6.3 Pay Items (page 650)**

Subsection heading number; change subsection heading number from "709.6.3" to "709.6.4".

### **SECTION 712 DRILLED SHAFTS AND DRILLED PILE FOUNDATIONS**

#### **Subsection 712.4.4 Dry Construction Method**

Paragraph 2, last sentence in A; change "*Drilled Shaft Report*" to "*Drilled Shaft Log*".

#### **Subsection 712.4.10.4 Excavation Cleanliness**

Paragraph 1, last sentence; change "*Drilled Shaft Report*" to "*Drilled Shaft Log*".

#### **Subsection 712.4.10.6 Shaft Load Test**

Change first paragraph reference number from "2" to "1".

#### **Subsection 712.6.10 Drilled Pile Set-Up**

Insert paragraph reference number "1" to the left of the first paragraph.

### **SECTION 723 DECK JOINT STRIP SEAL**

#### **Subsection 723.1 Description**

Insert paragraph reference number "3" to the left of the third paragraph.

### **SECTION 726 BRIDGE DECK REHABILITATION**

#### **Subsection 726.4.1 General**

Insert paragraph reference number "1" to the left of the first paragraph.

#### **Subsection 723.4.6 Full Depth Patching (page 790)**

Subsection heading number; change subsection heading number from "723.4.6" to "726.4.6"

### **SECTION 727 CROSSHOLE SONIC LOGGING OF DRILLED SHAFT FOUNDATIONS**

#### **Subsection 726.6 Payment (page 807)**

Subsection heading number; change subsection heading number from "726.6" to "727.6"

## **DIVISION 800 INCIDENTAL CONSTRUCTION**

### **SECTION 805 GUARDRAIL**

#### **Subsection 805.5 Measurement**

Paragraph 4; amend as follows:

"The quantity for the pay item 8053000 Additional Length Guardrail Post is the length of required post installed in excess of the standard length post based on the system being installed, measured by the linear foot (LF), complete, and accepted."

### **SECTION 815 EROSION CONTROL**

#### **Subsection 815.1 Description**

Paragraph 1, first sentence; change "temporary flexible pipe" to "temporary pipe".

**Subsection 815.5 Measurement**

Paragraph 13; delete the first sentence and replace it with the following sentence:  
"The quantity for Temporary Pipe Slope Drains is measured and paid for in accordance with **Subsections 803.5** and **803.6** respectively."

**Subsection 815.5 Measurement**

Delete paragraph 19.

**Subsection 815.6 Payment**

After paragraph 15, add the following paragraph:

- 16 Payment for Removal of Silt Retained by Silt Fence is full compensation for removing and disposing of sediment deposits accumulated by silt fences as specified or directed and includes all materials, labor, equipment, tools, supplies, transportation, and incidentals necessary to fulfill the requirements of the pay item in accordance with the Plans, the Specifications, and other terms of the Contract.

**Subsection 815.6 Payment**

Change original paragraph number "16" to "17".

**Subsection 815.6 Payment**

Pay Item table; change the Unit for Item No. 8156214 to "EA".

**INDEX:**

Amend as follows:

Page I-3, after "Bridge Deck Rehabilitation, measurement and payment:"  
Delete page 807.

Page I-12, after "Letting:"  
Replace page 19 with page 9.

Page I-13, after "Overhead Sign Structure:"  
Replace page 488 with page 495.

Page I-15, after "Proof Rolling:"  
Delete page 98.

Page I-18, after "Structural Steel, turned and ribbed bolts:"  
Replace page 624 with page 625.

Page I-19, after "Waterproofing, bridge deck:"  
Delete page 907.

Page I-20, after "Working Drawings:"  
Replace page 543 with page 779.

March 20, 2003

## THE SOUTH CAROLINA MINING ACT

The South Carolina Mining Act enacted by the General Assembly in 1973 requires that the Department adopt reclamation standards to govern activities of the Department and any person acting under contract with the Department, on highway rights-of-way or material pits maintained solely in connection with the construction, repair and maintenance of the public road systems in South Carolina.

### STANDARD PLAN FOR THE RECLAMATION OF EXCAVATED AREAS ADOPTED BY THE SOUTH CAROLINA DEPARTMENT OF TRANSPORTATION

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Reclamation plans as stated herein shall include all areas disturbed in excavations of borrow and material pits, except planned inundated areas.

The final side slopes of areas excavated for borrow and material pits shall be left at such an angle so as to minimize erosion and the possibility of slides. The minimum slope in every case shall be not less than 3:1.

Small pools of water should not be allow that are, or are likely to become noxious, odious, or foul to collect or remain on the borrow pit. Suitable drainage ditches, conduits, or surface gradient shall be constructed to avoid collection of noxious, odious, or foul pools of water unless the borrow pit is to be reclaimed into a lake or pond.

Borrow pits reclaimed to a lake or pond must have an adequate supply of water to maintain a water sufficient level to maintain a minimum water depth of four (4) feet on at least fifty (50) percent of the surface area of the lake or pond.

Excavated areas will be drained where feasible unless otherwise requested by the property owner where, in such instances, the property owner may wish to develop the excavated area for recreational purposes or for the raising of fish, or for other uses, in compliance with the South Carolina Mining Act.

Where material is stripped from the ground surface in relatively thin layers, the area, after excavation has been completed, will be thoroughly scarified and terraced and planted to establish satisfactory vegetation necessary to control erosion. Vegetative cover should be established on a continuing basis to ensure soil stability appropriate to the area. Conservation practices essential for controlling both on-site and off-site erosion and siltation must be established. A minimum of seventy-five (75) percent vegetative ground cover, with no substantial bare spots, must be established and maintained into the second growing season.

Excavated areas that are drained will be seeded to obtain a satisfactory vegetative cover. The side slopes of excavated area will be planted to vegetation.

The State Highway Engineer, or his duly appointed representative, will make a final inspection of the reclaimed area and keep a permanent record of his approval thereof. A map or sketch providing the location and approximate acreage of each pit used on the project will be made available to the Final Plans Engineer.

All applicable regulations of agencies and statutes relating to the prevention and abatement of pollution shall be complied with by the contractor in the performance of the contract.

\*\*\*\*\*

The Contractor shall comply with the provisions of the Plan which are applicable to the project as determined by the Engineer. Seeding or other work necessary to comply with the plan on pits furnished by the contractor shall be at the expense of the contractor. Bermuda shall not be planted on ground surface pit areas. The quantity of fescue seed specified in Subsection 810.04 of the Standard Specifications shall be increased by fifteen (15) pounds in lieu of the deleted bermuda seed.

January 1, 2009

## EROSION CONTROL MEASURES

In addition to the erosion control measures specified in the Plans, Standard Specifications, Supplemental Technical Specifications and the Special Provisions, the Contractor is advised that all land disturbing activities (clearing and grubbing, excavation, borrow and fill) are subject to the requirements set forth in the following permits and regulations:

- South Carolina Code of Regulations 63-380, Standard Plan for Erosion, Sediment, and Stormwater Runoff Control. The regulation may be viewed at the following Internet web address:

<http://www.scstatehouse.net/coderegs/c063.htm>

- Erosion and Sediment Reduction Act of 1983 (Title 48, Chapter 18 of the South Carolina Code of Laws of 1983, as amended). Section 70 of this code authorized the South Carolina Department of Health and Environmental Control (SCDHEC) to administer this regulation with respect to lands under the jurisdiction of the South Carolina Department of Transportation. The code may be viewed at the following Internet web address:

<http://www.scstatehouse.net/code/t48c018.htm>

- National Pollutant Discharge Elimination System (NPDES) General Permit Number SCR100000, effective September 1, 2006: The Environmental Protection Agency, in accordance with the Federal Clean Water Act, has granted to the South Carolina Department of Health and Environmental Control (SCDHEC) the authority to administer the Federal NPDES permit program in the State of South Carolina. The permit may be viewed at the following Internet web address:

<http://www.scdhec.net/environment/water/docs/finalcgp.pdf>

In accordance with the NPDES General Permit, sign a Co-Permittee Agreement and Contractor Certification statement (shown in Part 3.2D of the General Permit) and require all subcontractors performing land-disturbing activities to sign a Co-Permittee Agreement and Contractor Certification statement as part of their subcontract. These certifications are incorporated into the proposal form for the Contract. By signing either form, the Contractor acknowledges that upon award and execution of the Contract, he/she accepts/ understands the terms and conditions of the *Storm Water Pollution Prevention Plan (SWPPP)* as required by the NPDES General Permit and may be legally accountable to SCDHEC for compliance with the terms and conditions of the *SWPPP*. In addition, the Contractor certifies that the NPDES certification statement and/or co-permittee status is made part of all its subcontracts.

The SCDOT will complete and forward a *Notice of Intent (NOI)* to SCDHEC. If SCDHEC does not send a letter within 10 business days of receipt of the *NOI*, authorizing coverage, denying coverage, or advising that a review of the *CECP* will take place, coverage will be automatically granted.

Prepare and submit a *Contractor's Erosion Control Plan (CECP)* to the RCE before the pre-construction conference. Ensure that the plan meets the requirements of the NPDES General Permit. The plan will be reviewed and approved by the Department before commencing any land disturbing activities.

At the pre-construction conference, with all contractors and subcontractors performing land-disturbing activities present, the *CECP* will be explained and discussed so that each contractor and subcontractor is made aware of their responsibilities in the *CECP*.

Once approved, fully implement the *CECP*. Coordinate the prompt installation of erosion control devices with construction activities to maintain compliance with the above regulations and NPDES General Permit.

Conduct an Erosion and Sediment Control Inspection by an appointed Certified Erosion Prevention and Sediment Control Inspector (CEPSCI) from the Contractor and the Department at least every 7-calendar days. Both parties will acknowledge participation in the inspection by signing the inspection report and

include their inspector's CEPSCI number on the report. Correct deficiencies noted during these inspections within the assigned priority period. If deficiencies are not corrected within this timeframe, the RCE will stop all work (except erosion and sediment control measures) until the deficiencies are corrected.

Give special attention to critical areas within the project limits (i.e., running streams, water bodies, wetlands, etc.). In these areas, the RCE may direct the Contractor to undertake immediate corrective action, but in no case allow these deficiencies to remain unresolved more than 7 days or 48 hours in accordance with their assigned priority after being identified during the Erosion and Sediment Control Inspection.

Closely follow the grading operations with the seeding operations. Shape and prepare the slopes for seeding as the grading progresses. Unless the RCE grants prior written approval, limit the amount of surface area exposed by land disturbing activities to 750,000 square feet. Commence seeding operations within 7 days following completion of construction activities within an area.

Initiate stabilization measures within 7 days for an area where construction activities will be temporarily or permanently ceased for 21 days or longer.

Coordinate the installation of all other permanent erosion control items with the grading and seeding operations. These items include, but are not limited to, asphalt gutter and riprap. Construct gutter work before or promptly after the seeding is performed. Place riprap at the ends of pipe immediately after the pipe is laid and promptly install riprap ditch checks after ditch work has been performed.

Failure to adequately comply with the provisions as detailed above or any other required erosion control measures will result in stoppage of all contract operations (except erosion and sediment control measures) until corrective action has been taken. Additional sanctions may be invoked by the SCDHEC in accordance with their authority.

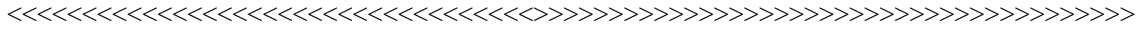
Keep the following documents at the RCE's office from the start of construction until the site is finally stabilized:

- Copy of the *CECP*,
- Copies of all the co-permittee agreements and Contractor certification statements,
- Copy of the permit,
- Letter from DHEC authorizing permit coverage if provided by DHEC, and
- A marked-up set of site plans.

When uniform perennial vegetation achieves a cover density of 70%, submit a *Notice of Termination (NOT)* to SCDHEC to terminate coverage. Include a signed statement with the *NOT* certifying that all work on the site has been completed in accordance with the *SWPPP* and the NPDES General Permit for all sites one acre or greater.

Fines assessed on the Department by SCDHEC as the result of the Contractor's non-compliance or violation of said permit provisions will be paid by the Department and will subsequently be deducted from any monies due or that may become due to the Contractor. In case no monies are due or available,

# **PROPOSAL FORM**

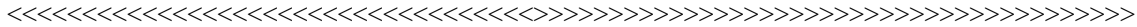


## **ESTABLISHMENT OF A DRUG FREE WORK PLACE**

In accordance with Section 44-107-30, South Carolina Code of Law, 1976, as amended, and as a condition precedent to the Award of the Contract, the PROPOSER, (hereinafter the Contractor), CERTIFIES on behalf of the Contract that the Contractor will provide a drug-free workplace by:

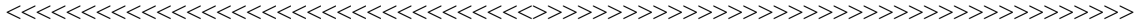
- (1) publishing a statement notifying employees that the unlawful manufacture, distribution, dispensations, possession, or use of a controlled substance is prohibited in the Contractor's workplace and specifying the actions that will be taken against employees for violations of the prohibition;
- (2) establishing a drug-free awareness program to inform employees about:
  - (a) the dangers of drug abuse in the workplace;
  - (b) the person's policy of maintaining a drug-free workplace;
  - (c) any available drug counseling, rehabilitation, and employee assistance programs; and
  - (d) the penalties that may be imposed upon employees for drug violations.;
- (3) making it a requirement that each employee to be engaged in the performance of the Contract be given a copy of the statement required by item (1);
- (4) notifying the employee in the statement required by item (1) that, as a condition of employment on the Contract, the employee will:
  - (a) abide by the terms of the statement; and
  - (b) notify the employer of any criminal drug statute conviction for a violation occurring in the workplace no later than five (5) days after the conviction;
- (5) notifying the South Carolina Department of Transportation within ten (10) days after receiving notice under item (4)(b) from an employee or otherwise receiving actual notice of conviction;
- (6) imposing a sanction on, or requiring the satisfactory participation in a drug abuse assistance or rehabilitation program by, any employee convicted as required on Section 44-107-50; and
- (7) making a good faith effort to continue to maintain a drug-free workplace through implementation of items (1), (2), (3), (4), (5), and (6).

**END OF THIS SECTION**









(COMPLETE THIS SECTION FOR FEDERAL PROJECTS ONLY)  
**EQUAL EMPLOYMENT OPPORTUNITY PERFORMANCE**

Select the Certification that applies to the PROPOSER:

**Certification (1)**  **or** **Certification (2)**

Select the appropriate responses in the applicable Certification:

**Certification (1):** Pursuant to 41 C.F.R. §60-1.7(b)(1), Previous Equal Employment Opportunity Performance Certification, as the Prospective Prime Contractor, **I HEREBY CERTIFY THAT I:**

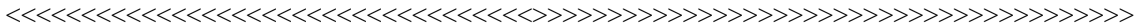
- (a) **(HAVE / HAVE NOT)** developed and filed an Affirmative Action Program pursuant to 41 C.F.R. §60-2;
- (b) **(HAVE / HAVE NOT)** participated in a previous contract or subcontract subject to the equal opportunity clause;
- (c) **(HAVE / HAVE NOT)** filed with the Joint Reporting Committee, the Director of Office of Federal Contract Compliance, or the Equal Employment Opportunity Commission, all reports due under the applicable filing requirements,

**OR**

Certification (2): **I, HEREBY CERTIFY** that as the Prospective Prime Contractor submitting this Proposal, **(CLAIM / DO NOT CLAIM)** exemption from the submission of the Standard Form 100 (EEO-1) due to the fact that it employs a total of less than fifty (50) employees under C.F.R. §60-1.7, or qualifies for an exempted status under 41 C.F.R. §60-1.5.

**I FURTHER CERTIFY** that the above Certification will be made part of any Subcontract Agreement involved with this project.

END OF THIS SECTION





May 22, 1997

**DISADVANTAGED BUSINESS ENTERPRISES (DBE)**  
**COMMITTAL SHEET**

Information must be shown on this sheet as required by the supplemental specifications entitled "Instructions to Bidders - Federal Projects" and "Disadvantaged Business Enterprises (DBE) - Federal Projects" included in this proposal.

**FAILURE TO PROVIDE ALL INFORMATION REQUIRED ON THIS FORM MAY RESULT IN THE AWARD BEING MADE TO THE NEXT LOWEST RESPONSIBLE BIDDER.**

<sup>1</sup> Name & Address of DBE's (Subcontractor or Supplier)	<sup>2</sup> Percent	<sup>3</sup> Description of Work and Approximate Quantity <sup>6</sup> (show percent when appropriate)				<sup>5</sup> Dollar Value
		Item	Qty.	Unit	<sup>4</sup> Unit Price	

<sup>1</sup> The designation of Firm A and/or B is not considered acceptable. I hereby certify that this company has communicated with and received quotes from the DBE's listed above and that they are willing to perform the work as listed above and that this company is committed to utilizing the above firm(s) on this contract.

<sup>2</sup> Percent - show percent of total contract amount committed to each DBE listed.

<sup>3</sup> All information requested must be included unless item is listed in proposal on a lump sum basis.

<sup>4</sup> Unit Price - show unit price quoted by DBE.

<sup>5</sup> Dollar Value - extended amount based on Quantity and Unit Price.

<sup>6</sup> Applies to lump sum items only.

This form may be reproduced or additional sheets added in order to provide all requested information. (See *Instructions to Bidders - Federal Projects*).

SWORN to before me this \_\_\_\_\_  
day of \_\_\_\_\_, 20\_\_\_\_\_

\_\_\_\_\_  
Company

\_\_\_\_\_  
(Seal)  
Notary Public for \_\_\_\_\_  
My commission expires: \_\_\_\_\_

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

**SE-330 – LUMP SUM BID  
BID FORM**

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

**BID SUBMITTED BY:** \_\_\_\_\_  
(Bidder's Name)

**BID SUBMITTED TO:** \_\_\_\_\_  
(Owner's Name)

**FOR PROJECT:** PROJECT NAME USCA Pedestrian Bridge  
PROJECT NUMBER H29-9545-PG

**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):* Construction of pedestrian bridge over existing highway and approach ramps. NOTE: There will be no unit pricing on the installation of the piles. Bidder shall include all anticipated costs in his/her bid. ,

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

**SE-330 – LUMP SUM BID  
BID FORM**

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

**ALTERNATE # 1** (Brief Description): Provide and install electrical and security appurtenances as shown on plan sheets E001, E002 and E101

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 palmetto tree releif to MSE walls as shown on plan sheets C5.0 and C5.1

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**

§ 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:

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

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

## **INSTRUCTIONS FOR SUBCONTRACTOR LISTING**

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

**SE-330 – LUMP SUM BID  
BID FORM**

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

**§ 9. TIME OF CONTRACT PERFORMANCE AND LIQUIDATED DAMAGES**

a. **CONTRACT TIME:** Bidder agrees that the Date of Commencement of the Work shall be established in a Notice to Proceed to be issued by the Owner. Bidder agrees to substantially complete the Work within 270 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**

**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:** \_\_\_\_\_

May 22, 1997

**DISADVANTAGED BUSINESS ENTERPRISES (DBE)**  
**COMMITTAL SHEET**

Information must be shown on this sheet as required by the supplemental specifications entitled "Instructions to Bidders - Federal Projects" and "Disadvantaged Business Enterprises (DBE) - Federal Projects" included in this proposal.

**FAILURE TO PROVIDE ALL INFORMATION REQUIRED ON THIS FORM MAY RESULT IN THE AWARD BEING MADE TO THE NEXT LOWEST RESPONSIBLE BIDDER.**

<sup>1</sup> Name & Address of DBE's (Subcontractor or Supplier)	<sup>2</sup> Percent	<sup>3</sup> Description of Work and Approximate Quantity <sup>6</sup> (show percent when appropriate)				<sup>5</sup> Dollar Value
		Item	Qty.	Unit	<sup>4</sup> Unit Price	

<sup>1</sup> The designation of Firm A and/or B is not considered acceptable. I hereby certify that this company has communicated with and received quotes from the DBE's listed above and that they are willing to perform the work as listed above and that this company is committed to utilizing the above firm(s) on this contract.

<sup>2</sup> Percent - show percent of total contract amount committed to each DBE listed.

<sup>3</sup> All information requested must be included unless item is listed in proposal on a lump sum basis.

<sup>4</sup> Unit Price - show unit price quoted by DBE.

<sup>5</sup> Dollar Value - extended amount based on Quantity and Unit Price.

<sup>6</sup> Applies to lump sum items only.

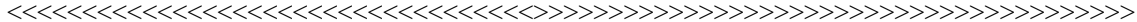
This form may be reproduced or additional sheets added in order to provide all requested information. (See *Instructions to Bidders - Federal Projects*).

SWORN to before me this \_\_\_\_\_  
day of \_\_\_\_\_, 20

\_\_\_\_\_  
Company

\_\_\_\_\_  
(Seal)  
Notary Public for \_\_\_\_\_  
My commission expires: \_\_\_\_\_

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



(COMPLETE THIS SECTION FOR FEDERAL PROJECTS ONLY)  
**EQUAL EMPLOYMENT OPPORTUNITY PERFORMANCE**

Select the Certification that applies to the PROPOSER:

**Certification (1)**  or **Certification (2)**

Select the appropriate responses in the applicable Certification:

**Certification (1):** Pursuant to 41 C.F.R. §60-1.7(b)(1), Previous Equal Employment Opportunity Performance Certification, as the Prospective Prime Contractor, **I HEREBY CERTIFY THAT I:**

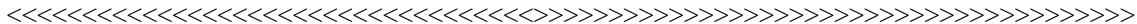
- (a) **(HAVE / HAVE NOT)** developed and filed an Affirmative Action Program pursuant to 41 C.F.R. §60-2;
- (b) **(HAVE / HAVE NOT)** participated in a previous contract or subcontract subject to the equal opportunity clause;
- (c) **(HAVE / HAVE NOT)** filed with the Joint Reporting Committee, the Director of Office of Federal Contract Compliance, or the Equal Employment Opportunity Commission, all reports due under the applicable filing requirements,

**OR**

**Certification (2): I, HEREBY CERTIFY** that as the Prospective Prime Contractor submitting this Proposal, **(CLAIM / DO NOT CLAIM)** exemption from the submission of the Standard Form 100 (EEO-1) due to the fact that it employs a total of less than fifty (50) employees under C.F.R. §60-1.7, or qualifies for an exempted status under 41 C.F.R. §60-1.5.

**I FURTHER CERTIFY** that the above Certification will be made part of any Subcontract Agreement involved with this project.

END OF THIS SECTION



## **FORM OF AGREEMENT**

**AIA Document A101, 2007 Edition, Standard Form of Agreement Between Owner and Contractor shall be the form of agreement and is incorporated into these contract documents by reference.**

**Copies of the Form of Agreement are available for examination at the offices of Chao and Associates, Inc.**

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

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**OWNER:** University of South Carolina Aiken

**PROJECT NUMBER:** H29-9545-PG

**PROJECT NAME:** USCA Pedestrian Bridge

**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**

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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 29223  
**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:** Lekita Hargrave  
**Title:** Project Manager  
**Address:** 743 Greene Street; Coulmbia, SC 29223  
**Telephone:** 803-777-5818**FAX:** \_\_\_\_\_  
**Email:** hargrave@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:** \_\_\_\_\_

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

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**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:** Gerald A. Lee  
**Title:** Director of Civil Engineering  
**Address:** 7 Clusters Court, Columbia, SC 29210  
**Telephone:** 803-772-8420 **FAX:** 803-772-9120  
**Email:** geraldl@chaoinc.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**

## **GENERAL CONDITIONS OF THE CONTRACT FOR CONSTRUCTION**

**AIA Document A201, 2007 Edition, General Conditions of the Contract for Construction is incorporated into these contract documents by reference.**

**Copies of the Form of Agreement are available for examination at the offices of Chao and Associates, Inc.**



# OSE FORM 00811

## STANDARD SUPPLEMENTARY CONDITIONS

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**OWNER:** University of South Carolina Aiken

**PROJECT NUMBER:** H29-9545-PG

**PROJECT NAME:** USCA Pedestrian Bridge

### 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**

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**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**

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

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

**3.14** *In the third sentence of Section 3.2.4, insert the word “latent” before the word “errors.”*

**3.15** *In the last sentence of Section 3.3.1, insert the words “by the Owner in writing” after the word “instructed.”*

**3.16** *Delete the third sentence of Section 3.5 and substitute the following sentences:*

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

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

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

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

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

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

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

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

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

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

acceptable to the Owner,

**3.22** *Delete Section 3.9.2 and substitute the following:*

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

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

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

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

**3.24** *Delete Section 3.10.3 and substitute the following:*

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

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

**3.25** *Add the following Section 3.10.4:*

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

**3.26** *Add the following Section 3.12.5.1:*

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

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

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

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

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**3.29** Add the following Sections 3.13.2 and 3.13.3:

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

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

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

including loss of use resulting therefrom,

**3.31** *Delete Section 4.1.1 and substitute the following:*

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

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

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

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

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

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

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

**3.35** *In Section 4.2.5, after the words “evaluations of the” and before the word “Contractor’s,” insert the following:*

Work completed and correlated with the

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

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

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

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

**3.38** *Delete Section 4.2.14 and substitute the following:*

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

**3.39** *Delete Section 5.2.1 and substitute the following:*

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

**3.40** *Delete Section 5.2.2 and substitute the following:*

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

**3.41** *In the first sentence of Section 5.2.3, delete the words “...or Architect...” in the two places they appear.*

**3.42** *Delete the words “...or Architect...” in the in the first sentence of Section 5.2.4 and insert the following sentence at the end of Section 5.2.4:*

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

**3.43** *Add the following Section 5.2.5:*

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

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

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

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

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

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

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

**3.45** *Delete the last sentence of Section 5.4.1.*

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

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

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

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

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

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

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

**3.49** *Delete Section 7.2.1 and substitute the following:*

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

- .1** The change in the Work;

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

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

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

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

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

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

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

**7.3.3 PRICE ADJUSTMENTS**

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

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

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

**3.52** *Delete Section 7.3.7 and substitute the following:*

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



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

**3.53** *Delete Section 7.3.8 and substitute the following:*

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

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

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

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

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

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

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

**§ 7.6.3 Records Retention.**

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

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**3.55** Delete Section 8.2.2 and substitute the following:

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

**3.56** Delete Section 8.3.1 and substitute the following:

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

**3.57** Insert the following at the end of Section 9.1:

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

**3.58** Delete Section 9.2 and substitute the following:

**9.2 SCHEDULE OF VALUES**

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

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

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

**3.59** Delete Section 9.3.1 and substitute the following:

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

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

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

*Insert the following at the end of Section 9.3.2:*

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

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

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

*In the last sentence, delete the third item starting with “(3) reviewed copies” and ending with “Contractor’s right to payment,”*

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

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

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

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

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

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

**9.7 FAILURE OF PAYMENT**

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

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

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

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

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

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

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

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

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

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

**3.70** *Delete Section 9.10.1 and substitute the following:*

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

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

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

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

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

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

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

**3.74** Add the following Section 9.10.6:

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

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

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

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

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

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

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

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

In addition to its obligations under Section 3.18, the

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

**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

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

**3.83** *Delete Section 11.1.4 and substitute the following:*

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

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

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

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

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

**3.87** *Delete Section 11.3.2 and substitute the following:*

**11.3.2 BOILER AND MACHINERY INSURANCE**

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

**3.88** *Delete Section 11.3.3 and substitute the following:*

**11.3.3 LOSS OF USE INSURANCE**

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

**3.89** *Delete Section 11.3.4 and substitute the following:*

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

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

**3.91** *Delete Section 11.3.6 and substitute the following:*

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

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

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

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

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

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

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

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

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

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

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

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

**11.4.2** The Performance and Labor and Material Payment Bonds shall:

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



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**3.98** *Add the following Sections 11.4.3 and 11.4.4:*

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

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

**3.99** *Delete Section 12.1.1 and substitute the following:*

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

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

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

unless otherwise provided in the Contract Documents.

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

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

**3.103** *Delete Section 13.1 and substitute the following:*

**13.1 GOVERNING LAW**

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

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

**13.2 SUCCESSORS AND ASSIGNS**

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

**3.105** *Delete Section 13.3 and substitute the following:*

**13.3 WRITTEN NOTICE**

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

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

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

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

Unless expressly provided otherwise,

**3.107** *Add the following Section 13.4.3:*

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

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

**3.5** Warranty

**3.17** Royalties, Patents and Copyrights

**3.18** Indemnification

**7.6** Cost or Pricing Data

**11.1** Contractor's Liability Insurance

**11.4** Performance and Payment Bond

**15.1.6** Claims for Listed Damages

**15.1.7** Waiver of Claims Against the Architect

**15.6** Dispute Resolution

**15.4** Service of Process

**3.108** *Delete Section 13.6 and substitute the following:*

**13.6 INTEREST**

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

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

**3.110** *Add the following Sections 13.8 through 13.16:*

**13.8 PROCUREMENT OF MATERIALS BY OWNER**

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

**13.9 INTERPRETATION OF BUILDING CODES**

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

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**13.10 MINORITY BUSINESS ENTERPRISES**

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

**13.11 SEVERABILITY**

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

**13.12 ILLEGAL IMMIGRATION**

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

**13.13 SETOFF**

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

**13.14 DRUG-FREE WORKPLACE**

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

**13.15 FALSE CLAIMS**

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

**13.16 NON-INDEMNIFICATION:**

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

**3.111** *Delete Section 14.1.1 and substitute the following:*

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

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

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

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

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

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

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

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

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

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

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

**3.119** *Delete Section 14.4.1 and substitute the following:*

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

**3.120** *Delete Section 14.4.2 and substitute the following:*

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

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

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

**3.121** *Delete Section 14.4.3 and substitute the following:*

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

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

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

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

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

**14.5 CANCELLATION AFTER AWARD BUT PRIOR TO PERFORMANCE**

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

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

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

**3.124** *Delete Section 15.1.2 and substitute the following:*

**15.1.2 NOTICE OF CLAIMS**

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

**3.125** *Delete Section 15.1.3 and substitute the following:*

**15.1.3 CONTINUING CONTRACT PERFORMANCE**

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

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

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

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

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

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

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

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

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

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

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

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### **STANDARD SUPPLEMENTARY CONDITIONS**

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

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

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

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

##### **INITIAL DECISION**

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

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

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

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

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

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

##### **15.6 DISPUTE RESOLUTION**

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

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

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

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

**15.6.5 SERVICE OF PROCESS**

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

**3.132** Add the following Article 16:

**ARTICLE 16 PROJECT-SPECIFIC REQUIREMENTS AND INFORMATION**

**16.1. Inspection Requirements:** *(Indicate the inspection services required by the Contract)*

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

- Civil: \_\_\_\_\_
- Structural: \_\_\_\_\_
- Mechanical: \_\_\_\_\_
- Plumbing: \_\_\_\_\_
- Electrical: \_\_\_\_\_
- Gas: \_\_\_\_\_
- Other *(list)*: \_\_\_\_\_

Remarks: Owner will pay for first inspection. Cost for re-inspections, if the first inspection is failed, shall be paid by the Contractor..



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- 16.1.1** Contractor shall schedule and request inspections in an orderly and efficient manner and shall notify the Owner whenever the Contractor schedules an inspection in accordance with the requirements of Section 16.1. Contractor shall be responsible for the cost of inspections scheduled and conducted without the Owner's knowledge and for any increase in the cost of inspections resulting from the inefficient scheduling of inspections.
- 16.2** List Cash Allowances, if any. (*Refer to attachments as needed. If none, enter NONE*)  
Refer to Specification Section 01210 - Allowances
- 16.3.** Requirements for Record Drawings, if any. (*Refer to attachments as needed. If none, enter NONE*)  
Refer to Specification Section 01770 - Project Closeout
- 16.4.** Requirements for Shop Drawings and other submittals, if any, including number, procedure for submission, list of materials to be submitted, etc. (*Refer to attachments as needed. If none, enter NONE*)  
Refer to Specification Section 01330 - 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*)  
Refer to Specification Section 01500 - Temporary Facilities
- 16.6.** Requirements for Project Cleanup in addition to the Contract, if any. (*Refer to attachments as needed. If none, enter NONE*)  
Refer to Specification Section 01740 - Cleaning
- 16.7.** List all attachments that modify these General Conditions. (*If none, enter NONE*)  
None

**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 29223

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: USCA Pedestrian Bridge  
State Project Number: H29-9545-PG  
Brief Description of Awarded Work, as found on the SE-330, Bid Form: Construct pedestrian bridge over SC Hwy 118 and approaches

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

Name: Chao and Associates, Inc  
Address: 7 Clusters Court  
Columbia, SC 29210

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)*

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**Performance Bond**

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

**6.1** If the Surety proceeds as provided in paragraph 4.4, and the

Agency refuses the payment tendered or the Surety has denied liability, in whole or in part, then without further notice the Agency shall be entitled to enforce any remedy available to the Agency.

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

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

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

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

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

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

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

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

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

**11. Definitions**

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

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

**SE-357  
Labor and Material Payment Bond**

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

Name: \_\_\_\_\_  
Address: \_\_\_\_\_  
\_\_\_\_\_

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

Name: \_\_\_\_\_  
Address: \_\_\_\_\_  
\_\_\_\_\_

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

Name: University of South Carolina  
Address: 743 Greene Street  
Columbia, SC 29223

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: USCA Pedestrian Bridge  
Project Number: H29-9545-PG  
Brief Description of Awarded Work, as found on the SE-330, Bid Form: Construction of pedestrian bridge over SC Hwy 118 and approaches

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

Name: Chao and Associates, Inc  
Address: 7 Clusters Court  
Columbia, SC 29210

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.



# SE-480 Construction Change Order

AGENCY: \_\_\_\_\_  
(Name)

PROJECT: \_\_\_\_\_  
(Number) \_\_\_\_\_ (Name)

CONTRACTOR: \_\_\_\_\_ CHANGE ORDER NO: \_\_\_\_\_

Contract Dated \_\_\_\_\_ for: \_\_\_\_\_

**The Contract is changed as follows:**

**Adjustments in the Contract Sum:**

- 1. Original Contract Sum ..... \$ \_\_\_\_\_
- 2. Change by Previously Approved Change Orders ..... \$ \_\_\_\_\_
- 3. Contract Sum prior to this Change Order ..... \$ \_\_\_\_\_
- 4. Amount of this Change Order ..... \$ \_\_\_\_\_
- 5. New Contract Sum, including this Change Order ..... \$ \_\_\_\_\_

**Adjustments in Contract Time:**

- 1. Original Substantial Completion Date ..... \_\_\_\_\_
- 2. Sum of previously approved increases and decreases ..... Days
- 3. Changes in Days for this Change Order ..... Days
- 4. New Substantial Completion Date ..... \_\_\_\_\_

**Contractor Acceptance:**

\_\_\_\_\_  
(Print or type name of representative) (Signature) (Date)

**Architect Recommendation for Acceptance:**

\_\_\_\_\_  
(Print or type name of representative) (Signature) (Date)

**Agency Acceptance and Certifications:**

\_\_\_\_\_  
(Print or type name of representative) (Signature) (Date)

\_\_\_ Change is within Agency Construction Procurement Certification amount of \_\_\_\_\_  
\_\_\_ Change is not within Agency Construction Procurement Certification amount of \_\_\_\_\_

Agency has authorized, unencumbered funds available for this additional obligation to this contract.  
The revised scope is within the approved scope and budget for this project.

**Office of the State Engineer Authorization for change not within Agency Construction Procurement Certification:**

\_\_\_\_\_  
(Signature of OSE Project Manager) (Date)

Change Order is not valid unless signed by the Agency, Contractor, Architect, and, when change is not within Agency's Construction Procurement Certification, the Office of State Engineer.

USC AIKEN  
CONTRACTOR CODE of CONDUCT and PARKING EXPECTATIONS  
FOR CONSTRUCTION/RENOVATION 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. Fraternalization between Contractor's employees and USC AIKEN students, faculty or staff is strictly prohibited- zero tolerance! USC AIKEN 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 AIKEN property is strictly prohibited. All person(s) in violation will be asked to leave USC Aiken property, and will not be permitted to return to work for the duration of the project or any future projects.
3. Contractor's employees must adhere to the University's policy of maintaining a drug-free and smoke free/ tobacco free workplace. Smoking is permitted only in designated areas.
4. If applicable, Contractor must sign a Contractor Key Receipt/ Return form before any keys are issued. The forms are to be filled out in the Operations Department located in the Supply and Maintenance Building. 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.
5. A welding permit must be issued before any welding can begin inside a building. Project Manger will coordinate.
6. Contractor must notify the University immediately upon the discovery of suspect materials such as those potentially containing asbestos or other such hazardous materials. These materials must not be disturbed until approved by the USC AIKEN Project Manager.
7. At the beginning of the project, the USC AIKEN 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 as approved by the PM and University Police. The lay-down area will be clearly identified to the contractor by the PM, with a sketch or drawing provided to University Police. 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.
8. All contractors must wear identification badges or shirts with company name/logo.
9. No shorts, sandals, or inappropriate clothing is permitted.

## 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 AIKEN walkways must first receive the Project Manager's authorization. Violator's may be subject to fines and penalties.
3. All Motorized vehicles that leak or drip liquids are prohibited fro traveling or parking on walks or landscaped areas. They will be responsible for clean-up if violated.
4. Contractors, vendors, and delivery personnel are required to obtain prior parking authorization before parking in a designated place. 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 expenses.
6. Vehicles drivers who park on landscape or walkways must be able to produce written evidence of need or emergency requiring parking on same.
7. All vehicles parked on landscaped, 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 the Project Manager.
10. Parking on campus is restricted to spaces designated by Project Manager 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.



Project Name:

Project Number:

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)

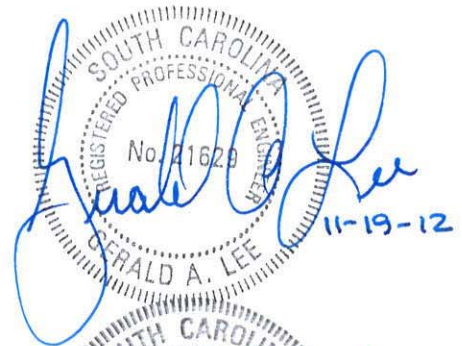
\_\_\_\_\_ State

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

Engineers and Architect of Record  
USCA Pedestrian Bridge  
State Project No: H29-9545-PG

Civil Engineer and  
Project Manager

Gerald A. Lee, PE  
Chao and Associates, Inc.  
7 Clusters Court  
Columbia, SC 29210  
Tel: 803-772-8420



Structural Engineer

David Chao, PE, LEED AP  
Chao and Associates, Inc.  
7 Clusters Court  
Columbia, SC 29210  
Tel: 803-772-8420



Architect

Deborah A. Snow, AIA  
McCreary/Snow Architects, PA  
PO Box 11143  
Columbia, SC 29211  
Tel: 803-771-6267



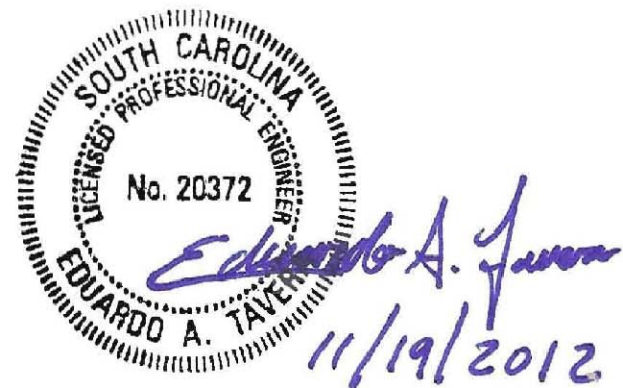
Electrical Engineer

S. Dickson O'Brien, PE  
GWA Electrical Engineers, Inc  
168 Laurelhurst Avenue  
Columbia, SC 29210  
Tel: 803-252-6919



Geotechnical Engineer

Ed Tavera, PE  
Geostellar Engineering, LLC  
1077 Rodney Drive  
Baton Rouge, LA 70808  
Tel: 803-997-0554



## **PLAN SHEET ENUMERATION**

**USCA Pedestrian Bridge  
State Project No.: H29-9545-PG  
In Aiken County, SC**

**Prepared For: University of South Carolina Aiken**

**By:**

**Chao & Associates, Inc.**

**October 9, 2012**

### **Civil Drawings**

**C1.0 Existing Conditions**

**C2.0 Overall Bridge Plan and Profile**

**C3.0 Layout Plan – North Ramp**

**C3.1 Grading Detail – North Ramp**

**C3.2 Sediment and Erosion Control – North Ramp**

**C3.4 Ramp Sections – North Ramp**

**C4.0 Layout Plan – South Ramp**

**C4.1 Grading Detail – South Ramp**

**C4.2 Sediment and Erosion Control – South Ramp**

**C5.0 MSE Wall Elevations**

**C5.1 Rib Wall and Palmetto Tree Relief Detail**

**C6.0 Miscellaneous Details**

**C6.1 Miscellaneous Details**

### **Structural Drawings**

**S0.0 General Notes**

**S1.0 Typical Plan and Elevation**

**S1.1 Typical Plans**

**S1.2 Elevation View**

**S1.3 End Elevation**

**S2.0 Details**

**S3.0 Foundation Plans**

**S3.1 Foundation Section and Details**

**S3.2 Sections and Details**

## **PLAN SHEET ENUMERATION (cont...)**

### **Architectural Drawings**

**A1.0 Bridge and Tower Plans**

**A2.0 Elevations and Pre-Cast Panels**

**A3.0 Sections and Details**

**A4.0 Signage Panels**

### **Electrical Drawings**

**E001 Electrical Symbols, Schedules and Details**

**E002 Electrical Details**

**E101 Electrical Site/Floor Plans**

**DIVISION 1**  
GENERAL REQUIREMENTS

## SECTION 01110

### SUMMARY OF WORK

#### PART 1 - GENERAL

##### 1.01 WORK COVERED BY CONTRACT DOCUMENTS

- A. Construct new pedestrian bridge spanning Robert M. Bell Parkway (SC Hwy 118) and associated approach ramps and walks.

##### 1.02 RELATED WORK

- A. Documents affecting work of this section include, but are not necessarily limited to, General Conditions, Supplementary Conditions, and sections in Division 1 of these specifications.

##### 1.03 SAFETY COMPLIANCE

- A. In addition to any detailed requirements of these specifications, the contractor shall meet the requirements of federal and state standards referenced in applicable publications, whichever is more restrictive. Matters of interpretation of these standards shall be submitted by the contractor to the respective administrative agency for resolution before starting work.

##### 1.04 PRECAUTION AND SAFETY

###### SPECIAL REQUIREMENTS

- A. Accident Prevention and Safety: Comply with all applicable laws, ordinances, rules, regulations and orders of governing authorities having jurisdiction for the safety of persons and property to protect them from damage, injury or loss. Erect and maintain, as required by conditions and progress of the work, all necessary safeguards for safety and protection, including fences, railings, barricades, lighting, posting of danger signs and other warnings against hazards. Where prevention of construction accidents is not regulated by code or ordinances, comply with AGC' s "Manual of Accident Prevention in Construction." Contractor shall be solely responsible for initiating, maintaining and supervising all safety precautions and programs in connection with the Project. All scaffolds shall be built in accordance with all requirements of local, state and Federal laws and regulations.
- B. **Contractor/SubContractor's must stipulate that they are responsible for running a National Sex Offender Registry check on their employees who work in schools.**

*By submitting a bid for this project, the bidder agrees to prohibit any employees or sub-contractor employees from performing work or services at USC Aiken if they are deemed to be Registered Sex Offenders, or pose a known criminal danger to children or staff. The bidder hereby agrees to run a National Sex Offender Registry check (<http://www.nsopr.gov/>) or equivalent on all employees or sub-contractor employees who may be in the proximity of students or staff. This check must be done by the contractor/vendor prior to performing any work*

SUMMARY OF WORK

01110 - 1

*or services at USC Aiken. Contractor/vendor to provide a signed affidavit indicating that the National Sex Offender Registry check has been performed on all employees and subcontractor employees and stating that any new employee working on the site will also be checked (this includes temporary laborers, etc.).*

#### 1.05 COORDINATION OF WORK SEQUENCE

- A. Coordinate work for the various sections of the Specifications to ensure efficient and orderly sequence of installation of construction elements, with provisions for accommodating items installed later.
- B. Verify characteristics that elements of interrelated operating equipment are compatible; coordinate work of various sections having interdependent responsibilities for installing, connection to, and placing in service, such equipment.
- C. Coordinate space requirements and installation of mechanical and electrical work which are indicated diagrammatically on Drawings. Follow routing shown for pipes, ducts and conduits, as closely as practicable; make runs parallel with lines of building. Utilize spaces efficiently to maximize accessibility for other installations, for maintenance, and for repairs.
- D. In finished areas conceal pipes, ducts, and wiring in the construction. Coordinate locations of fixtures and outlets with finish elements.

#### 1.06 TIME OF COMPLETION AND LIQUIDATED DAMAGES

- A. The Contract Performance Period shall be two hundred and seventy (270) calendar days and commence upon written Notice to Proceed.
- B. Should the contractor fail to have all work completed within the time specified, the contractor shall be assessed Liquidated Damages in the amount of two hundred and fifty dollars (\$250.00) per calendar day.

#### 1.07 FINAL INSPECTION AND PUNCH LIST:

- A. The contract has an established contract completion date. In order to avoid the assessment of liquidated damages, the contractor shall require in writing to the architect/engineer a final inspection on or prior to the established completion date. The contractor shall certify that all construction/installation is complete and has been checked out and is operating as designed. The architect/engineer shall notify the Owner in writing that the job is ready for inspection.
- B. The architect/engineer, Construction Manager, contractor, and all sub-contractors associated with the construction/installation of the building equipment

#### SUMMARY OF WORK

shall be present during the final inspection to demonstrate the proper operations of the equipment. Removal/replacement of necessary covers for inspection shall be conducted by the contractor.

1.08 FINAL PUNCH LIST ITEMS:

- A. The contractor and sub-contractors shall have fourteen (14) calendar days from the date of final inspection to complete the repair of any and all items listed on the final punch list.
- B. If the contractor or his sub-contractor fails to complete all items on the final inspection punch list within the allocated fourteen calendar days, liquidated damages in the amount specified by the contract will be assessed retroactive to the contract completion date and will continue until all items on the punch list are completed. (Only exception shall be by recommendation of the architect/engineer and/or Construction Manager, and approval by the Owner, that lack of completion was due to circumstances beyond the control of the contractor.)

END OF SECTION

SUMMARY OF WORK



**SECTION 01120**

**SCOPE OF WORK – SINGLE PRIME CONTRACT**

1.0 **GENERAL**

1.1 **SPECIFICATIONS**

- 1.1.1 Furnish all labor, material, tools, taxes, insurance, equipment, supervision and all other incidentals necessary to completely furnish and install the following items of work.
- 1.1.2 Any item of work described or indicated in the Contract Documents and Specifications is to be performed by this Contractor.
- 1.1.3 The Single Prime Contractor shall include all sections.

**DIVISION 1 – GENERAL REQUIREMENTS**

**DIVISION 2 - SITEWORK**

**DIVISION 3 - CONCRETE**

**DIVISION 5 - METALS**

**DIVISION 16 – ELECTRICAL**

2.0 **ALLOWANCES – TO BE INCLUDED IN GENERAL CONTRACTORS BID**

2.01 General

2.02 Related Documents:

- A. Drawings and general provisions of Contract including General & Supplementary Conditions and other Division-1 specification sections, apply to work of this section.
- B. Specification Section 01210 – Cash Allowances

2.03 Scope: This section describes the allowances that are to be included in the Base Bid.

2.04 Allowance: The following allowances to be used as directed by Architect. Any unused portion of these allowances shall be credited to the Owner at the completion of the work. These allowances shall be considered actual costs and the contractor's profit, insurance, taxes, and installation cost will be figured in the bids, except as otherwise noted.

- A. None Noted

## SECTION 01140

### WORK RESTRICTIONS

#### PART 1 GENERAL

##### 1.01 DESCRIPTION

- A. Work Included: This section applies to situations in which the Contractor or his representatives including, but not necessarily limited to, suppliers, subcontractors, employees and field engineers, enter upon the Owner's property.
- B. Related Work: Documents affecting work of this section include, but are not necessarily limited to, General Conditions, Supplementary Conditions and Sections in Division 1 of these Specifications.

##### 1.02 QUALITY ASSURANCE

- A. Promptly upon the award of the Contract, notify all pertinent personnel regarding requirements of this Section.
- B. Require that all personnel who will enter upon the Owner's property certify their awareness of and familiarity with the requirements of this section.

##### 1.03 SUBMITTALS

- A. Maintain an accurate record of the names and identification of all visitors entering upon the Owner's property in connection with the work of this contract, including times of entering and times of leaving, and submit a copy of the record to the Owner weekly.

##### 1.04 TRANSPORTATION FACILITIES

- A. Truck and equipment access: (1) To avoid traffic conflict with vehicles of the Owner's employees and customers, and to avoid over-loading of street and driveways elsewhere on the Owner's property, limit the access of trucks and equipment to the designated "Contractor's Entrance". (2) Provide adequate protection for curbs and sidewalks over which trucks and equipment pass to reach the job site.
- B. Contractor's vehicles: (1) Require contractor's vehicles, vehicles belonging to employees of the contractor, and all other vehicles entering the Owner's property in performance of the work the contract, to use only the designated Access Route. (2) Do not permit such vehicles to park on any street or other area of the Owner's property except in the areas to be designated.
- C. Refer to "USC Aiken Contractor Code of Conduct and Parking Expectations for Construction/Renovation Projects" and "Vehicle Expectations" included in this manual for additional restrictions and requirements.

### WORK RESTRICTIONS

1.05 SECURITY

- A. Restrict the access of all persons entering upon the Owner's property in connection with the work to the Contractor's Entrance and to the actual site of the work.

1.06 CONTRACTOR USE OF PREMISES

- A. Confine operations at site to area permitted by Owner and Contract Documents.
- B. Do not unreasonably encumber site with materials or equipment.
- C. Do not load structure with weight that will endanger structure.
- D. Assume full responsibility for protection and safekeeping of products stored on premises.
- E. Move any stored products, which interfere with operations of Owner.

1.07 OWNER OCCUPANCY

- A. Not applicable.

1.08 WORK IN, OR ADJACENT TO, EXISTING OR OCCUPIED AREAS

- A. Repair damage to existing structures, equipment or furnishings resulting from Contractor's use of premises.
- B. No construction materials shall be stored on the "school side" of temporary separation fences at any time. Coordinate all deliveries.
- C. No hoisting shall be allowed over any school building during normal school hours or other time when the building is occupied for school related or other activities.
- D. The contractor shall minimize construction noise where reasonably possible during school hours.
- E. Fire extinguishers are required in all construction areas.

1.09 CONTRACTOR CONDUCT

- A. The possession and/or use of drugs and alcohol on district property are prohibited.
- C. No improper language or fraternization by Contractor's employees with student and staff are allowed.

END OF SECTION

## SECTION 01210

### CASH ALLOWANCES

#### PART 1 GENERAL

##### 1.01 WORK INCLUDED

- A. To provide adequate budget and bonding to cover items not precisely determined by Owner prior to advertising for bids, allow within the proposed contract amount the sums described below.

##### 1.02 RELATED WORK DESCRIBED ELSEWHERE

- A. Contractors are referred to the General Conditions, Article 3, for conditions governing the inclusion of allowances in the contract sum.

##### 1.03 ESTABLISHED METHODS

- A. When a cash allowance is set for certain items or materials, it is understood that any savings under such allowance shall accrue to the Owner and if the material purchased costs more than the Allowance, such additional cost shall be borne by the Owner.

##### 1.04 UNDESCRIBED ALLOWANCES

- A. Allowances and provisions not further described in these specification will be specified and bid at a later date
- B. Allowance shall include purchase and installation, delivery cost to the job, unloading and sales tax; does not include profit to the general contractor unless otherwise noted.
- C. After receipt of bids, as above mentioned, the successful subcontract shall become part of the scope of work of the general contractor at no additional cost to the Owner, except for the stipulated cash allowance as adjusted.
- D. This method established to allow general contractor to control scheduling of subcontractor so as to meet established completion date.

##### 1.05 OWNER PURCHASED ITEMS

- A. The responsibilities of the contractor vary from item to item. Overall, the contractor is responsible for coordination and scheduling of all items to be installed. On certain specific items he is responsible for installation and protection of the finished product. On others, he is responsible for coordination of all rough-in. For items purchased by the Owner and installed by the successful bidder that require electrical, mechanical, and plumbing connections, the contractor is responsible for coordinating the necessary provisions.
- C. The Owner is responsible for furnishing the agreed upon items in a timely fashion. The names of all successful bidders shall be provided to the contractor. The contractor and successful bidders shall be responsible for scheduling and delivery of all Owner furnished items.

### CASH ALLOWANCES

## PART 2 PRODUCTS

- 2.01 A. Cash allowances are specified under each prime contractor's Scope of Work.

## PART 3 EXECUTION

### 3.01 PROCEDURE

- A. After receipts of bids, as above mentioned, the successful subcontractor shall become part of the scope of work of general contractor at no additional cost to the Owner, except for the stipulated cash allowance as adjusted.
- B. This method established to allow general contractor to control scheduling of subcontractor so as to meet established completion date.

END OF SECTION

## SECTION 01230

### ALTERNATES

#### PART 1 - GENERAL

##### 1.01 DESCRIPTION

- A. Work Includes: Provide alternative bid proposals as described in this Section.
- B. Related Documents:
  - 1. Documents affecting work of this Section include, but are not necessarily limited to, General Conditions, Supplementary Conditions, and all applicable Sections in Division 1 of these Specifications.
- C. Procedures:
  - 1. Provide alternative bids to be added to or deducted from the amount of the Base Bid if the corresponding change in scope is accepted by the Owner.
  - 2. Include within the alternative bid prices all costs, including materials, submittals, installation, and fees to provide a complete, operable and finished system.
  - 3. Show the proposed alternative amounts opposite their proper description of the Bid Form.
  - 4. See Plans and Subparagraph 1.01.D of this specification for a description of alternates.
- D. Alternates:
  - 1. Definitions: Alternates are defined as alternate products, materials, equipment, installations or systems for the work, which may at the Owner's option and under terms established by Instructions to Bidders, be selected and recorded in the Contract (Owner-Contractor Agreement) to either supplement or displace corresponding basic requirements of contract documents. The Alternates are not in precise order of acceptance and may be accepted, rejected or deferred in any order.
  - 2. Notification: Immediately following award of Contract, prepare and distribute to each entity to be involved in performance of the work, a notification of status of each alternate. Indicate which alternates have been: 1) Accepted, 2) Rejected, and 3) Deferred for consideration at a later date as indicated. Include full description of negotiated modifications to alternates, if any.
  - 3. Alternate prices may be held 90-days beyond contract acceptance. Alternate prices listed below shall be good for ninety (90) days beyond

### ALTERNATES

the date of contract acceptance. The Owner may accept or reject any or all alternates within the above stated time frame.

E. Alternative bid pricing is requested for the following:

#1 – Provide and install electrical and security appurtenances as shown on plan sheets E001, E002 and E101

#2 – Add palmetto tree relief to MSE walls as shown on plan sheets C5.0 and C5.1

END OF SECTION

ALTERNATES

01230 - 2

## SECTION 01250

### CHANGE ORDER PROCEDURES

#### PART 1 - GENERAL

##### 1.1 DESCRIPTION

- A. NO EXTRA WORK SHALL BE PERFORMED WITHOUT FIRST RECEIVING WRITTEN APPROVAL FROM THE OWNER (USC/COLUMBIA PROJECT MANAGER).
- B. Work included: Make such changes in the Work, in the Contract Sum, in the Contract Time of Completion, or any combination thereof, as are described in written Change Orders signed by the Owner and the Architect/Engineer and issued after execution of the Contract, in accordance with provisions of this Section.
- C. Related Work:
  - 1. Documents affecting work of this Section include, but are not necessarily limited to, General Conditions, Supplementary Conditions, and Sections in Division 1 of these Specifications.
  - 2. Changes in the Work are described further in Article 7 of the General Conditions.

##### 1.2 QUALITY ASSURANCE

- A. Include within the Contractor's quality assurance program such measures as are needed to assure familiarity of the Contractor's staff and employees with these procedures for processing Change Order data.

##### 1.3 SUBMITTALS

- A. Make submittals directly to the Architect/Engineer at the address shown on the Project Directory in the Project Manual.
- B. Submit the number of copies called for under the various items listed in this Section along with appropriate back-up materials.

##### 1.4 PROCESSING CHANGES INITIATED BY THE OWNER

- A. Should the Owner contemplate making a change in the Work or a change in the Contract Time of Completion, the USC/Columbia Project Manager will issue a Construction Change Directive to the Contractor.
  - 1. Construction Change Directives will be dated and will be numbered in sequence.
  - 2. The Construction Change Directives will describe the contemplated change, and will carry one of the following instructions to the Contractor:
    - a. Make the described change in the Work at no change in the Contract Sum and no change in the Contract Time of Completion;
    - b. Make the described change in the Work, and provide for a credit or cost

### CHANGE ORDER PROCEDURES



to be determined in accordance with Article 7 of the General Conditions.

- c. Promptly advise the Construction Manager as to the credit or cost proposed for the described change. This will not be an authorization to proceed with the change.
- B. If the Contractor has been directed by the Construction Manager and/or Architect/Engineer to make the described change in the Work at no change in the Contract Sum and no change in the Contract Time of Completion, but the Contractor wishes to make a claim for one or both of such changes, the Contractor shall proceed with the change and shall notify the Construction Manager and/or Architect/Engineer as provided for under subparagraphs 4.7.7 and 4.7.8 of the General Conditions.
- C. If the Contractor has been directed by the Construction Manager and/or Architect/Engineer to make the described change subject to later determination of cost or credit in accordance with Paragraph 7.3 of the General Conditions, the Contractor shall:
1. Take such measures as needed to make the change;
  2. Consult with the Construction Manager and/or Architect/Engineer and reach agreement on the most appropriate method for determining credit or cost for the change.
- D. If the Contractor has been directed by the Construction Manager and/or Architect/Engineer to promptly advise him as to credit or cost proposed for the described change, the Contractor shall:
1. Analyze the described change and its impact on costs and time;
  2. Secure the required information and forward it to the Construction Manager for review;
  3. Meet with the Construction Manager and/or Architect/Engineer as required to explain costs, and when appropriate, to determine other acceptable ways to achieve the desired objective;
  4. Alert pertinent personnel and subcontractors as to the impending change and, to the maximum extent possible, avoid such work as would increase the Owner's cost for making the change, advising the Construction Manager and/or Architect/Engineer in writing when avoidance no longer is practicable.

#### 1.6 PROCESSING CHANGES INITIATED BY THE CONTRACTOR

- A. Make written reply to the Construction Manager and/or Architect/Engineer in response to each Construction Change Directive.
1. State proposed change in the Contract Sum, if any.
  2. State proposed change in the Contract Time of Completion, if any.
  3. Clearly describe other changes in the Work required by the proposed change, or desirable therewith, if any.

4. Include full backup data such as, subcontractor's letter of proposal or similar information.
  5. Submit this response in a single copy.
- B. When cost or credit for the change has been agreed upon by the Owner and the Contractor, or the Owner has directed that cost or credit be determined in accordance with provisions of Article 7 of the General Conditions, the Architect will issue a "Change Order" to the Contractor.

## 1.8 PROCESSING CHANGE ORDERS

- A. Change Orders will be dated and will be numbered in sequence.
- B. The Change Order will describe the change or changes, will refer to the Construction Change Directive(s) involved, and will be signed by the Owner and the Architect/Engineer.
- C. The Architect/Engineer will issue five copies of each Change Order to the Construction Manager for the remaining distribution and execution of all parties.
1. The Contractor shall promptly sign all five copies and return all five copies to the Construction Manager.
  2. The Construction Manager will then forward five copies to the Architect for his signature.
  3. The Architect will sign all five copies and then forward five copies to the Owner for his signature.
  4. The Owner will sign all five copies, retain one copy for his file and return the remaining four copies to the Construction Manager who will then forward fully executed copies to the Contractor, Architect/Engineer and the Office of School Planning and Building.
- D. Should the Contractor disagree with the stipulated change in Contract Sum or change in Contract Time of Completion, or both:
1. The Contractor promptly shall return three copies of the Change Order, unsigned by him, to the Architect/Engineer with copy to the Construction Manager with a letter signed by the Contractor, stating his disagreement.
  2. The Contractor's disagreement with the Change Order shall not in any way relieve the Contractor of his responsibility to proceed with the change as ordered under pertinent provisions of the Contract Documents.

END OF SECTION

## SECTION 01270

### UNIT PRICES

#### PART 1 - GENERAL

##### 1.01 SECTION INCLUDES

- A. This Section specifies administrative and procedural requirements for unit prices.

##### 1.02 RELATED DOCUMENTS

- A. Drawings and general provisions of Contract, including General and Supplementary Conditions and other Division 1 Specification Sections, and the Technical Specification Divisions 2 through 16 apply to this Section.

##### 1.03 GENERAL DESCRIPTION

- A. A unit price is an amount proposed by Bidders and stated on the Bid Form as a price per unit of measurement for materials or services that will be added to or deducted from the Contract Sum by Change Order in the event the estimated quantities or Work required by the Contract Documents are increased or decreased.
- B. The unit prices shall include all labor, materials, bailing, shoring, removal, overhead, profit, insurance, etc., to cover the finished work of the kinds called for.
- C. Refer to individual Specification Sections for construction activities requiring the establishment of unit prices. Methods of measurement and payment for unit prices are specified in those Sections and as listed on the Form of Proposal.
  - 1. The Owner reserves the right to reject the Contractor's measurement of work-in-place that involves the use of established unit prices, and to have this Work measured by an independent surveyor acceptable to the Contractor at the Owner's expense.

END OF SECTION

## SECTION 01290

### APPLICATIONS FOR PAYMENT

#### PART 1 - GENERAL

##### 1.1 DESCRIPTION

- A. Work included: Comply with procedures described in this Section when applying for progress payments and final payment under the Contract.
- B. Related Work:
  - 1. Documents affecting work of this Section include, but are not necessarily limited to, General Conditions, Supplementary Conditions and Sections in Division 1 of these Specifications.
  - 2. The Contract Sum and the schedule for payments are described in the Form of Agreement.
  - 3. Payments upon Substantial Completion and Completion of the Work are described in the General Conditions and in Division I of these Specifications.
  - 4. The Construction Manager's and Architect/Engineer's approval of applications for progress payment and final payment may be contingent upon the Construction Manager's and Architect's approval of status of Project Record Documents.

##### 1.2 QUALITY ASSURANCE

- A. Prior to approval of payment application number one, secure the Construction Manager's approval of the project schedule and schedule of values required to be submitted under Paragraph 9.2 of the General Conditions, and further described in Section 01291 of these Specifications.
- B. During progress of the Work, modify the schedule of values as approved by the Construction Manager to reflect changes in the Contract Sum due to Change Orders or other modifications of the Contract.
- C. Base requests for payment on the approved schedule of values.

##### 1.3 SUBMITTALS

- A. Informal Submittal: Unless otherwise directed by the Construction Manager:
  - 1. Make an informal submittal of request for payment by filling in, with erasable pencil, pertinent portions of AIA Document G702, "Application and Certificate for Payment", plus continuation sheet or sheets.
  - 2. Make this preliminary submittal of request for payment as agreed with the Construction Manager, initialing all copies.
- B. Formal Submittal: Unless otherwise directed by the Construction Manager:

### APPLICATIONS FOR PAYMENT

1. Make formal submittal of request for payment by filling in the agreed date, by typewriter or neat lettering in ink, on AIA Document G702, "Application and Certificate for Payment", plus continuation sheet or sheets.
2. Sign and notarize the Application and Certificate for Payment.
3. Submit the original of the Application and Certificate for Payment, plus five (5) identical copies of the entire Application including all continuation sheet or sheets, to the Construction Manager. All copies shall bear original signatures and original notarizations.
4. The USC/Columbia Project Manager will compare the formal submittal with the approved informal submittal and, when approved, will sign the Application and Certificate for Payment, and will distribute:
  - a. Six copies to Architect/Engineer for Approval;
  - b. After approval of Architect/Engineer, Four copies to Owner.
5. Request for Payment against any change order will not be honored until the change order is signed by all appropriate parties.

END OF SECTION

## SECTION 01291

### SCHEDULE OF VALUES

#### PART 1 - GENERAL

##### 1.1 DESCRIPTION

- A. Work included: Provide a detailed breakdown of the agreed Contract Sum showing values allocated to each of the various parts of the Work, as specified herein and in other provisions of the Contract Documents.
- B. Related Work:
  - 1. Documents affecting work of this Section include, but are not necessarily limited to General Conditions, Supplementary Conditions, and Sections in Division 1 of these Specifications.
  - 2. Schedule of Values is required to be compatible with the continuation sheet and accompanying applications for payment, as described in Section 01290.

##### 1.2 QUALITY ASSURANCE

- A. Use required means to assure arithmetical accuracy of the sums described.
- B. When so required by the Construction Manager and/or Architect/Engineer, provide copies of the subcontractor's Schedule of Values or other data acceptable to the Construction Manager and/or Architect/Engineer, substantiating the sums described.

##### 1.3 SUBMITTALS

- A. Format and Content: Use the Project Manual Table of Contents as a guide to establish the format for the Schedule of Values.
  - 1. Identification: Include the following Project identification on the Schedule of Values:
    - a. Project name and location.
    - b. Name of the Architect/Engineer.
    - c. Project number.
    - d. Contractor's name and address.
    - e. Date of submittal.
  - 2. Provide a breakdown of the Contract Sum in sufficient detail to facilitate continued evaluation of Applications for Payment and progress reports. Break principal subcontract amounts down into several line items.
  - 3. Round amounts off to the nearest whole dollar; the total shall equal the Contract Sum.
  - 4. For each part of the Work where an Application for Payment may include materials or equipment, purchased or fabricated and stored, but not yet installed, provide separate line items on the Schedule of Values for initial cost of the

materials, for each subsequent stage of completion, and for total installed value of that part of the Work.

6. Margins of Cost: Show line items for indirect costs, and margins on actual costs, only to the extent that such items will be listed individually in Applications for Payment. Each item shall be complete including its total cost and proportionate share of general overhead and profit margin.
    - a. Temporary facilities and other major cost items that are not direct cost of actual work-in-place shall be shown as separate line items in the Schedule of Values.
  7. Schedule Updating: Update the Schedule of Values when Change Orders or Construction Change Directives result in a change in the Contract Sum.
- B. Prior to first application for payment, submit a proposed schedule of values to the Construction Manager.
1. Meet with the Construction Manager and determine additional data, if any required to be submitted.
  2. Secure the Construction Manager's approval of the schedule of values prior to submitting first application for payment. NO APPLICATIONS FOR PAYMENT WILL BE PROCESSED PRIOR TO APPROVAL OF THE SCHEDULE OF VALUES.
  3. AIA Form G703 and "Form A" provided by the Construction Manager shall be submitted with all columns and spaces completed.

END OF SECTION

## SECTION 01311

### PROJECT MEETINGS

#### PART 1 - GENERAL

##### 1.1 DESCRIPTION

- A. Work included: To enable orderly review during progress of the Work, and to provide for systematic discussion of problems and to coordinate all phases of the Project toward completion in accordance with the Contract Documents, the Construction Manager will conduct project meetings throughout the construction period.
- B. Related Work:
  - 1. Documents affecting work of this Section include, but are not necessarily limited to General Conditions, Supplementary Conditions, and Sections in Division 1 of these Specifications.
  - 2. The Contractor's relations with his subcontractors and materials suppliers are the Contractor's responsibility and normally are not part of project meeting content.
  - 3. This Section specifies administrative and procedural requirements for project meetings including, but not limited to:
    - a. Pre-construction conferences.
    - b. Progress meetings.
    - c. Coordination meetings.
    - d. Pre-installation conferences.

##### 1.2 QUALITY ASSURANCE

- A. For those persons designated by the Contractor to attend and participate in project meetings, provide required authority to commit the Contractor to solutions agreed upon in the project meetings. Any change in personnel by a Contractor will be forwarded in writing to the Construction Manager prior to the change.

##### 1.3 SUBMITTALS

- A. Agenda Items: To the maximum extent practical, advise the Construction Manager at least 24 hours in advance of project meetings regarding items to be added to the agenda.
- B. Minutes:
  - 1. The Construction Manager will compile minutes of each monthly project meeting, and will furnish one copy to the General Contractor, Architect/Engineer and required copies to the Owner. The General Contractor shall compile minutes of each weekly project meeting and will furnish one copy to the Architect/Engineer, Owner, and Construction Manager..
  - 2. Recipients of copies may make and distribute such other copies as they wish.

### PROJECT MEETINGS



## PART 2 - PRODUCTS

(No products are required in this Section)

## PART 3 - EXECUTION

### 3.1 MEETING SCHEDULE

- A. Except as noted for Pre-construction Meeting, formal job site meetings with on site job superintendents will be held weekly.
- B. Except as noted for Pre-construction Meeting, formal project meetings with attendance of each Contractor's office Project Manager will be held monthly.
- C. Coordinate as necessary to establish mutually acceptable schedule for meetings.

### 3.2 MEETING LOCATION

- A. The Construction Manager will establish meeting location. To the maximum extent practicable, meetings will be held at the job site.

### 3.3 PRECONSTRUCTION MEETING

- A. Pre-construction Meeting will be scheduled to be held within 15 working days after the Owner has issued the Notice to Proceed.
  - 1. Provide attendance by authorized representatives of the Contractor.
  - 2. The Construction Manager will advise other interested parties, including the Owner, and request their attendance, as necessary.
- B. Minimum Agenda: Data will be distributed and discussed on at least the following items:
  - 1. Organizational arrangement of Contractor's forces and personnel, subcontractors, material suppliers, the Construction Manager, and the Architect/Engineer.
  - 2. Channels and procedures for communication.
  - 3. Construction schedule, including sequence of critical work.
  - 4. Contract Documents, including distribution of required copies of original Documents and revisions.
  - 5. Processing of Shop Drawings and other data submitted to the Construction Manager for transmittal to Architect for review.
  - 6. Processing of Bulletins, field decisions, Change Orders, and Payment Applications.
  - 7. Rules and regulations governing performance of the Work.
  - 8. Procedures for safety and first aid, security, quality control, housekeeping and

related matters.

9. Preparation of record drawings.
10. Use of the premises.
11. Office, work and storage areas.
12. Equipment deliveries and priorities.
13. Working hours.
14. Request for Information format.
15. Notification of Defective and Non-Conforming Work format.
16. Rejection of Work format.
17. Building and Special Inspections

### 3.4 PROJECT MEETINGS

#### A. Attendance:

1. To the maximum extent practicable, assign the same person or persons to represent the Contractor at project meetings throughout progress of the Work.
2. Conduct progress meetings at the Project site at regularly scheduled intervals. Notify the Owner and Architect/Engineer of scheduled meeting dates. Coordinate dates of meetings with preparation of the payment request.
3. Attendees: In addition to representatives of the Owner and Architect/Engineer, each subcontractor, supplier or other entity concerned with current progress or involved in planning, coordination or performance of future activities shall be represented at the meetings by persons familiar with the Project and authorized to conclude matters relating to progress.

#### B. Minimum Agenda:

1. Review, revise as necessary, and approve minutes of previous meetings.
2. Review progress of the Work since last meeting, including status of submittals for approval. Determine where each activity is in relation to the Contractor's Construction Schedule, whether on time or ahead or behind schedule. Determine how construction behind schedule will be expedited; secure commitments from parties involved to do so.
3. Identify problems which impede planned progress.
4. Develop corrective measures and procedures to regain planned schedule.
5. Complete other current business.

6. Update as-built documents as required.
  7. Schedule Updating: Revise the construction schedule after each progress meeting where revisions to the schedule have been made or recognized. Issue the revised schedule concurrently with the report of each meeting.
  8. Review the present and future needs of each entity present, including such items as:
    - a. Interface requirements.
    - b. Time.
    - c. Sequences.
    - d. Deliveries
    - e. Off-site fabrication problems.
    - f. Access.
    - g. Site utilization.
    - h. Temporary facilities and services.
    - i. Hours of work.
    - j. Hazards and risks.
    - k. Cleaning and site conditions.
    - l. Quality and work standards.
    - m. Change Orders.
    - n. Documentation of information for payment requests.
  9. Building and Special Inspections
- C. Revisions to minutes:
1. Unless published minutes are challenged in writing prior to the next regularly scheduled progress meeting, they will be accepted as properly stating the activities and decisions of the meeting.
  2. Persons challenging published minutes shall reproduce and distribute copies of the challenge to all indicated recipients of the particular set of minutes.
  3. Challenge to minutes shall be settled as priority portion of "old business" at the next regularly scheduled meeting.
- D. Reporting: No later than 5 days after each progress meeting date, distribute copies of minutes of the meeting to each party present and to other parties who should have been present. Include a brief summary, in narrative form, of progress since the previous meeting and report.

END OF SECTION

## SECTION 01320

### PROGRESS SCHEDULE

#### PART 1 - GENERAL

##### 1.0.1 WORK INCLUDED

- A. To assure adequate planning and execution of the Work so that the Work is completed within the number of calendar days allowed in the Contract, and to assist the Architect/Engineer in evaluating progress of the Work, prepare and maintain the schedules and reports described in this Section.
- B. It should be noted by all Contractors and material suppliers the extremely critical nature of this project and time being allowed for its completion.
- C. Work shall be performed in accordance with the Pre-Bid Construction Schedule. Liquidated Damages to be assessed on individual activities as they fall behind rather than on an entire job.

##### 1.0.2 RELATED WORK

- A. Documents affecting work of this Section include, but are not necessarily limited to, General Conditions, Supplementary Conditions, and Sections in Division 1 of these specifications.
- B. Requirements for progress schedule: General Conditions.
- C. Construction period: Form of Agreement

##### 1.0.3 DEFINITIONS

- A. "Day", as used throughout the Contract unless otherwise stated, means "calendar day".

##### 1.0.4 QUALITY ASSURANCE

- A. Employ a scheduler who is thoroughly trained and experienced in compiling construction schedule, and in preparing and issuing periodic updates and reports as required.
- B. Perform data preparation, analysis, charting and updating in accordance with standards approved by the Architect.

##### 1.0.5 SUBMITTALS

- A. Comply with pertinent provisions of Section 01300, Submittals.
- B. Construction schedule: After the Contractor has received the Owner's Notice to Proceed, the Contractor shall provide the Construction Manager with sufficient

### PROGRESS SCHEDULE

information on his plan for completing all work under this Contract. The Contractor shall provide a detailed bar chart (CPM Method) of this work clearly showing how his schedule integrates with the total construction duration. This bar chart schedule must include subcontract awards, material purchase dates and delivery dates, manpower levels broken down by trades and plant and equipment to be used. All interface activities and tasks which must be completed by other trades prior to proceeding with the work must be shown on the bar chart schedule. Submit one (1) reproducible copy and four (4) prints of a construction schedule for review.

- C. Periodic revisions and reports: Submit four (4) prints of the construction schedule updated along with the monthly payment request.

## PART 2 - PRODUCTS

### 1.0.1 CONSTRUCTION ANALYSIS

- A. Graphically show by bar-chart the order and interdependence of all activities necessary to complete the work, and the sequence in which each activity is to be accomplished, as planned by the Contractor and his project field superintendent in coordination with all subcontractors.

## PART 3 - EXECUTION

### 3.0.1 CONSTRUCTION SCHEDULE

- A. Immediately after receipt of Notice to Proceed meet with the Construction Manager, review contents of the proposed construction schedule, and make all revisions agreed upon.
- B. The information on the Contractor's plan of action for performing the work under this Contract shall be based on the allotted construction duration for this work. The Construction Schedule shall indicate the key points of interface between the work under this contract and the other work of the project and the major project milestones. Sequencing and coordinating of miscellaneous activities will be discussed and agreed upon in the weekly meetings. It is agreed and understood that the schedule dates shown in the Construction Schedule for the indicated interface points and project milestones may change during the course of the Contract and such changes, in and of themselves, will not entitle the Contractor to any additional compensation or be deemed to constitute an extension of time or to constitute a change under Article 7 of the General Conditions for the Contract for Construction.
- C. Every effort will be made to make progress on the work as expeditiously as possible and if critical path activities can be improved during the course of the work, the Construction Schedule shall be revised to reflect improved dates on all work activities.
- D. The Contractor shall award all subcontracts, purchase materials, arrange for deliveries, furnish sufficient forces, plant and equipment and work such hours as necessary to insure execution of the work in conformity with the project duration.
- E. In the event of material procurement delays, the Contractor shall immediately notify the Construction Manager. However, it will be assumed that the Contractor has

## PROGRESS SCHEDULE

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checked material deliveries as specified prior the Bid, as submission of a Bid for work will be assumed to be an agreement to the time frame allocated for that work as noted per the total project duration.

- F. If the Contractor falls behind the Construction Schedule, or current approved revision of the Construction Schedule, and is not entitled to any time extension as determined by the Construction Manager, he shall, upon request of the Construction Manager, submit within forty-eight (48) hours his plan for bringing his work back up to schedule. This plan shall include a commitment for immediate implementation, unless otherwise approved by the Construction Manager, and must include a time commitment, acceptable to the Construction Manager, for bringing the work up to schedule. If the Contractor fails to provide an acceptable plan within the requested time, he will be given a mandatory plan by the Construction Manager.
- G. The Contractor's plan shall illustrate his proposed methods for bringing his work back up to schedule, whether by a normal 40 hour work week, or by working 24 hours a day if necessary. If other measures will not be sufficient to make up the lag, the Contractor's plans and implementation thereof shall include increasing the number of shifts, days of work and/or instituting or increasing overtime, all at his own expense.
- H. If a Contractor fails or refuses to implement such measures as will bring his work back up to conformity with the approved Schedule, his right to proceed with any or all portions of the Contract requirements may be terminated pursuant to Article 14 of the General Conditions for the Contract for Construction.

### 3.0.2 PERIODIC REVISIONS AND REPORTS

- A. The approved construction schedule shall be updated monthly and submitted along with each monthly payment application.
  - 1. Indicate "actual" progress in percent completion for each activity.
  - 2. Provide written narrative summary of revisions causing delay in the program, and an explanation of corrective actions taken or proposed.

### 3.0.4 REVISIONS

- A. The Contractor will be given ample notice on any schedule changes that may affect the starting dates of his work. Periodic schedule review and revision meetings will be held with the Contractors who will be expected to provide input to the scheduling activities. The latest approved revision of the Construction Schedule shall be part of the Contract Documents and shall be complied with by the Contractor at no extra cost to the Owner. Activity duration period shown on the Construction Schedule will not be reduced without the approval of the Contractor nor will they be increased without the approval of the Construction Manager.
- B. Make only those revisions to approved construction schedule as are approved in advance by the Construction Manager.

### 3.0.5 REQUEST FOR EXTENSION DUE TO DELAYS

- A. It is understood that the Owner, Construction Manager or Architect/Engineer shall not in any event be liable to the Contractor for delays of any kind whatsoever and the Contractor shall be fully responsible for making up lost time of all delays except to the extent that extensions of time are granted. If completion of the work is delayed by any act of neglect of the Owner, or by the Construction Manager or the acts of the Construction Manager or Architect/Engineer, by strikes or by other exceptional conditions over which the Contractor has no reasonable control, the time of completion shall upon receipt of the Contractor's written request, be extended by such period as the Construction Manager may consider reasonable. No extension shall be allowed unless a claim is presented in writing to the Construction Manager within seven (7) days after the commencement of such delay. In case of continued cause of delay, only one claim is necessary. Nothing in this clause shall be construed to release the Contractor from the obligation to perform at his own expense all overtime necessary to maintain the Contract completion date where delays have occurred which are not excused. If the Contractor, delayed by any acts of the Owner, Construction Manager, Architect/Engineer, and is granted an extension of time by the Construction Manager, the Contractor shall comply with the extended schedule with no additional compensation from the Owner.

END OF SECTION

## SECTION 01330

### SUBMITTAL PROCEDURES

#### PART 1 GENERAL

- A. The Contractor shall submit for review by the Architect/Engineer, Shop Drawings and schedules required by the Specifications, or that may be requested by the Architect/Engineer, and no work shall be fabricated by the Contractor, except at his own risk, until such review has been completed.

#### 1.1 FORM OF SUBMISSION MATERIALS

##### A. SHOP DRAWING SCHEDULE

1. Immediately after date of Notice to Proceed, each Contractor shall submit to the Construction Manager a Shop Drawing Submittal Schedule, which shall include the following minimum information:
  - a. List all items to be submitted for review referenced to the specific specifications section.
  - b. Name of subcontractor if applicable.
  - c. Supplier and date of purchase order.
  - d. Total fabrication and delivery time from time submittals are returned to the Contractor.
  - e. Scheduled delivery date.

(NOTE): No applications for payment will be processed unless the above listed information has been submitted.

##### B. SHOP DRAWINGS

1. Scale and Measurements: Make Shop Drawings accurately to a scale sufficiently large to show all pertinent aspects of the item and its method of connection to the work.
2. Review comments of the Architect/Engineer will be shown on submittal when it is returned to the Contractor. The Contractor may make and distribute such copies as are required for his purposes.



C. MANUFACTURER'S LITERATURE

1. Where contents of submitted literature from manufacturers include data not pertinent to the submittal, clearly show which portions of the contents are being submitted for review.

D. SAMPLES

1. Provide Sample or Samples identical to the precise article proposed to be provided. Identify as described under "Identification of Submittals" below.
2. Number of Samples required:
  - a. Unless otherwise specified, submit samples in the quantity which is required to be returned, plus three which will be retained by the Architect and Construction Manager.
  - b. By prearrangement in specific cases, a single sample may be submitted for review and, when approved, be installed in the Work at a location agreed upon by the Architect/Engineer.

E. COLORS AND PATTERNS

1. Unless the precise color and pattern is specifically called out in the Contract Documents, and whenever a choice of color or pattern is available in the specified products, submit accurate color and pattern charts to the Architect/Engineer for selection.
2. No colors will be selected by the Architect/Engineer until all colors are submitted. If a color selection is needed prior to final approval of the color schedule, Contractor shall notify Architect/Engineer of which items need early color selection, provide color charts and date that selection must be made to keep project on schedule.

1.2 SUBMISSION PROCEDURE

A. IDENTIFICATION OF SUBMITTALS

1. Multiple submittals on a single transmittal are not acceptable. Accompany each submittal with a letter of transmittal showing all information required for identification and checking.
2. Consecutively number all submittals.
  - a. When material is resubmitted for any reason, transmit under a new letter of transmittal and with a new transmittal number.
  - b. On re-submittals, cite the original submittal number for reference.
3. On at least the first page of each submittal, and elsewhere as required for positive identification, show the submittal number in which the item was included.

4. Maintain an accurate submittal log for duration of the Work, showing current status of all submittals at all times. Make the submittal log available to the Architect/Engineer and Construction Manager for their review, upon request.
5. Provide number of copies required by Contractor plus two copies for Architect/Engineer and two copies for the Construction Manager files. The Construction Manager will maintain one copy of each submittal to deliver to Owner at project close-out.

**B. GROUPING OF SUBMITTALS**

1. Unless otherwise specified, make submittals in groups containing all associated items to assure that information is available for checking each item when it is received.
  - a. Partial submittals may be rejected as not complying with the provisions of the Contract.
  - b. The Contractor may be held liable for delays so occasioned.
2. Provide a separate transmittal and drawing number for each item to be reviewed.

**C. CHECKING SUBMITTALS PRIOR TO SUBMISSION**

1. Prior to each submittal, carefully review and coordinate all aspects of each item being submitted.
2. Verify that each item and the submittal for it conform in all respects with the specified requirements.
3. The drawings submitted shall be marked with the name of the project, numbered consecutively and bear the signed and dated stamp of the approval of that Contractor as evidence that the drawings have been checked by the Contractor. Any drawings submitted without this stamp of approval will not be considered and will be returned to the Contractor for re-submission. If the shop drawings show variation from the requirements of the Contract because of standard shop practice or with reasons, the Contractor shall make specific mention of such variations in his letter of transmittal in order that, if acceptable, suitable action may be taken for proper adjustment; otherwise, that Contractor will not be relieved of the responsibility for executing the work in accordance with the Contract even though such shop drawings have been approved.

**D. DELIVERY AND TIMING OF SUBMITTALS**

1. All submittals shall be transmitted to the Construction Manager for forwarding to the Architect/Engineer for review based upon their relative position in the Construction Schedule, or as follows:
  - a. Prior to Mobilizing On-Site
    1. Performance Bond
    2. Labor and Material Bonds

3. Insurance Certificate
- b. Following Notice to Proceed
  1. Shop Drawing Submittal Schedule (immediately)
  2. Schedule of Values (within 10 days)
  3. Superintendent's Resume (within 10 days)
  4. Detailed Construction Schedule (within 21 days)
  5. Subcontractor Listing (within 30 days)
  6. All Equipment & Furnishings submittals (within 90 days) UNO.
2. Shop drawing submittals shall be made far enough in advance, based on the approved Construction Schedule, to meet all installation dates as scheduled. This will require that sufficient lead time be allowed to address an adequate review period, securing necessary approvals, possible revisions and re-submittals, placing orders and securing delivery dates. A detailed Shop Drawing Submittal Schedule is included as part of the Pre-Bid Construction Schedule.
3. In scheduling, allow at least ten (10) working days for review by the Architect following his receipt of the submittal (plus transit time).

#### E. ARCHITECT/ENGINEER'S REVIEW

1. Review by the Architect/Engineer does not relieve the Contractor from responsibility for errors which may exist in the submitted data.
2. The review of Shop Drawings will be general and shall not be construed as:
  - a. Permitting any departure from the Contract Requirements.
  - b. Relieving the Contractor of the responsibility for any error in details, dimensions or otherwise that may exist.
  - c. Approving departures from additional details or instruction previously furnished by the Architect/Engineer.
3. Revisions:
  - a. Make revisions required by the Architect/Engineer.
  - b. If the Contractor considers any required revisions to be a change, he shall notify the Construction Manager and/or Architect as provided for in Paragraph 4.7.7 of the General Conditions.
  - c. Make only those revisions directed or approved by the Architect/Engineer.
4. If a drawing, as submitted, indicates a departure from the Contract requirements which the Architect/Engineer finds to be in the interest of the Owner and to be minor as not to involve a change in the Contract Price or time for performance, the Architect/Engineer may approve the drawing.

#### F. FINAL DISTRIBUTION OF SUBMITTALS

1. The Construction Manager will retain one set at the project site. Each Contractor

shall be responsible for the distribution of the Shop Drawings and schedules within his own organization and to his subcontractors.

2. The Contractor will advise the Construction Manager of the date that reviewed shop drawings are forwarded to the manufacturers or fabricators. Un-priced copies of purchase orders placed with suppliers or fabricators are to be forwarded to the Construction Manager when orders are placed.

END OF SECTION

## SECTION 01400

### QUALITY CONTROL

#### PART 1 GENERAL

##### 1.01 SCOPE

- A. **DESCRIPTION OF REQUIREMENTS:** Required inspection and testing services are intended to assist in the determination of probable compliance of the work with requirements specified or indicated. These required services do not relieve the Contractor of responsibility for compliance with these requirements or for compliance with requirements of the contract documents. See Section 01415 - Special Inspections for additional requirements regarding inspections and testings.

1. **Definitions:** The requirements of this section relate primarily to customized fabrication and installation procedures, not to the production of standard products. Quality control services include inspections and tests and related actions including reports, performed by independent agencies and governing authorities, as well as directly by the Contractor. These services do not include observation activities performed directly by the Architect or Engineer.

Specific quality control requirements for individual units of work are specified in the sections of these specifications that specify the individual element of the work. These requirements, including inspections and tests, cover both production of standard products, and fabrication of customized work. These requirements also cover quality control of the installation procedures.

Inspections, tests and related actions specified in this section and elsewhere in the contract documents are not intended to limit the Contractor's own quality control procedures which facilitate overall compliance with requirements of the contract documents.

Requirements for the Contractor to provide quality control services as required by the Architect/Engineer, the Owner, governing authorities or other authorized entities are not limited by the provisions of this section.

##### 1.02 RESPONSIBILITIES

- A. **Contractor Responsibilities:** Except where specifically indicated as being the Contractor's responsibility to pay for testing and/or inspections, it shall be the Owner's responsibility to engage and pay for testing and inspections and similar quality control services.

1. Contractor shall be responsible for proper notification when an inspection or test is required, to provide access to facilitate the inspection / test and shall be responsible to make corrections necessary when work is not in compliance with the Contract Documents. These responsibilities shall apply regardless of which party pays for the inspection / test.

- B. **Owner's Responsibilities:**

1. The Owner will engage and pay for the services of an independent agency to perform all inspections and tests unless specifically specified as the Contractor's responsibility or to be provided by another identified entity (i.e., the manufacturer).

2. Inspections: All inspections as listed in Section 01415 – Special Inspections shall be the Owner's responsibility to procure and pay for required inspections and testing.
- C. Retest Responsibility: Where results of required inspections, tests or similar services prove unsatisfactory and do not indicate compliance of related work with the requirements of the contract documents, then **retests are the responsibility of the Contractor**, regardless of whether the original test was the Contractor's responsibility. Retesting of work revised or replaced by the Contractor is the Contractor's responsibility, where required tests were performed on original work. Same agency that performed original tests shall perform re-tests.
- D. Responsibility for Associated Services: The Contractor is required to cooperate with the independent agencies performing required inspections, tests and similar services. Provide such auxiliary services as are reasonably requested. Notify the testing agency sufficiently in advance of operations to permit assignment of personnel. These auxiliary services include, but are not necessarily limited to, the following:
- Providing access to the work.
  - Taking samples or assistance with taking samples.
  - Delivery of samples to test laboratories.
  - Security and protection of samples and test equipment at the project site.
- E. Coordination: The Contractor and each independent agency engaged to perform inspections, tests and similar services for the project shall coordinate the sequence of their activities so as to accommodate required services with a minimum of delay in the progress of the work. In addition the Contractor and each independent testing agency shall coordinate their work so as to avoid the necessity of removing and replacing work to accommodate inspections and tests. The Contractor is responsible for scheduling times for inspections, tests, taking of samples and similar activities.
- F. Qualification for Service Agencies: Except as otherwise indicated, engage inspection and test service agencies, including independent testing laboratories, which are prequalified as complying with "Recommended Requirements for Independent Laboratory Qualification" by the American Council of Independent Laboratories, and which are recognized in the industry as specialized in the types of inspections and tests to be performed. Testing agency shall be approved by the Architect/Engineer and the State Engineer (OSE).

### 1.03 SUBMITTALS

- A. General: Refer to Division - 1 section on "Submittals" for the general requirements on submittals. See Sections 01415 and 01416 for specific reporting requirements for Special Inspections. Submit a certified written report of each inspection, test or similar service, to the Architect/Engineer, Construction Manager, Owner, State Engineer (OSE), and Contractor.
1. Inspection / testing firm shall be responsible to notify the Contractor, Construction Manager and Owner immediately of all failed tests in writing. If deficiency is not corrected, the inspection / testing firm shall notify the Owner and the State Engineer (OSE).
  2. Report Data: Written reports of such inspection, test or similar service shall include, but not be limited to the following:
    - Name of Project.
    - Name of testing agency or test laboratory.
    - Dates and locations of samples and tests or inspections.

Names of individuals making the inspection or test.  
Designation of the work and test method.  
Complete inspection or test data.  
Test results.  
Interpretations of test results.  
Notation of significant ambient conditions at the time of sample-taking and testing.  
Comments or professional opinion as to whether inspected or tested work complies with requirements of the contract documents.  
Recommendations on corrections necessary, if applicable.  
Recommendation on retesting, if applicable.

3. A copy of each report shall be kept in the job trailer.

B. Test report submittals are for Architect/Engineer's knowledge as contract administrator for the limited purpose of assessing conformance with information given and the design concept expressed in the contract documents, or for Owner's information.

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

## **PART 3 EXECUTION**

### **3.01 TESTING AND INSPECTION**

A. See individual specification sections and sections 01410, 01415 and 01416 for testing and inspection required.

B. Testing Agency Duties:

1. Test samples of mixes submitted by Contractor.
2. Provide qualified personnel at site. Cooperate with Architect/Engineer and Contractor in performance of services.
3. Perform specified sampling and testing of products in accordance with specified standards.
4. Ascertain compliance of materials and mixes with requirements of Contract Documents.
5. Promptly notify Architect/Engineer and Contractor of observed irregularities or non-conformance of Work or products.
6. Perform additional tests and inspections required by Architect.
7. Attend preconstruction meetings and progress meetings.
8. Submit reports of all tests/inspections specified.

C. Limits on Testing/Inspection Agency Authority:

1. Agency may not release, revoke, alter, or enlarge on requirements of Contract Documents.
2. Agency may not approve or accept any portion of the Work.
3. Agency may not assume any duties of Contractor.
4. Agency has no authority to stop the Work.

### **3.02 MANUFACTURERS' FIELD SERVICES:**

A. When specified in individual specification sections, require material or product suppliers or manufacturers to provide qualified staff personnel to observe site conditions, conditions of

surfaces and installation, quality of workmanship, start-up of equipment, and test, adjust and balance equipment, as applicable, and to initiate instructions when necessary.

- B. Submit qualifications of observer to Architect 30 days in advance of required observations.
- C. Report observations and site decisions or instructions given to applicators or installers that are supplemental or contrary to manufacturers' written instructions.

**3.03 REPAIR AND PROTECTION:**

- A. General: Upon completion of inspection, testing, sample-taking and similar services performed on the work, Contractor shall repair damaged work and restore substrates and finishes to eliminate deficiencies, including deficiencies in the visual qualities of exposed finishes. Comply with the contract document requirements for "Cutting and Patching". Protect work exposed by or for quality control service activities, and protect repaired work. Repair and protection is the Contractor's responsibility, regardless of the assignment of responsibility for inspection, testing or similar services.

**END OF SECTION**



## SECTION 01415

### SPECIAL INSPECTIONS & STRUCTURAL TESTING

#### PART 1 GENERAL

##### 1.01 SCOPE

- A. This section includes a listing of special inspections as required by Chapter 17 of the 2006 International Building Code (IBC) to be performed during the progress of this project. A Certificate of Occupancy cannot be issued without documentation that these inspections have been performed and the work is in conformance with the Contract Documents and the 2006 International Building Code.
- B. Related Work:
  - Section 01400      Quality Control
  - Section 01410      Building Inspections
  - Section 01416      Quality Assurance Plan for Seismic Requirements

##### 1.02 RESPONSIBILITY

- A. It shall be the Owner's responsibility to contract and pay for special inspections; however, the Contractor shall be responsible for proper notification when inspection is required in the progress of the work, providing access to facilitate the inspection and making corrections necessary when work is not in compliance with the Contract Documents. The Contractor shall give the Inspector 24 hours notice minimum when an inspection for a portion of the work is required.

##### 1.03 REPORTS

- A. Copies of inspection reports signed by person performing the inspection or test shall be submitted to Construction Manager, Architect/Engineer, and Contractor. A copy shall also be kept in the job trailer.

##### 1.04 GENERAL REQUIREMENTS

- A. Special Inspections and Materials Testing shall be in accordance with Chapter 17 of the 2006 International Building Code.
- B. Special Inspections and Materials Testing shall be in accordance with the 2001 edition of the "National Practice Guidelines for Special Inspections," by the Council of American Structural Engineers (CASE) and in accordance with Office of State Engineer inspection requirements.
- C. The program of Special Inspections and Structural Testing is a Quality Assurance Program intended to ensure that the work is performed in accordance with the Contract Documents.
- D. This specification section is intended to inform the Contractor of the Owner's quality assurance program and the extent of the Contractor's responsibilities. This specification section is also intended to notify the Special Inspector, Testing Laboratory, and other Agents of the Special Inspector of their requirements and responsibilities.

##### 1.05 SPECIAL INSPECTIONS

- A. Shall be performed by a qualified inspector and/or approved testing agency, acceptable to Office of State Engineer (OSE).

- B. Contractor shall be responsible to notify inspector in a timely manner (24 hours prior notice minimum) when required inspections need to be performed.
- C. The inspection / testing firm shall be responsible to notify the Contractor, the Construction Manager, and Architect/Engineer immediately of all failed inspections and/or tests in writing. If discrepancies are not corrected, the Special Inspector shall notify OSE and the Owner.

#### **1.06 SCHEDULE OF INSPECTIONS AND TESTS**

- A. Required inspections and tests are described in the "Statement of Special Inspections" attached at the end of this section, and in the individual specification Sections for the items to be inspected or tested.

#### **1.07 QUALIFICATIONS**

- A. The Testing Laboratory and individual technicians shall be approved by the Structural Engineer of Record (SER) and OSE.
- B. The Testing Laboratory shall maintain a full time licensed Professional Engineer (P.E.) on staff who shall certify the test reports. The Engineer shall be responsible for the training of the testing technicians and shall be in responsible charge of the field and laboratory testing operations.
- C. Special Inspections shall be performed by inspectors as approved by OSE.
  - 1. Special Inspectors shall possess current certifications in the trade areas which are to be inspected.

#### **1.08 SUBMITTALS**

- A. The Special Inspector and Testing Laboratory shall submit to the SER and OSE for review a copy of their qualifications which shall include the names and qualifications of each of the individual inspectors and technicians who will be performing inspections or tests.
- B. The Special Inspector and Testing Laboratory shall disclose any past or present business relationship or potential conflict of interest with the Contractor or any of the Subcontractors whose work will be inspected or tested.

#### **1.09 PAYMENT**

- A. The Owner shall engage and pay for the services of the Special Inspector, Agents of the Special Inspector, and the Testing Laboratory.
- B. If any materials which require Special Inspections are fabricated in a plant which is not located within 100 miles of the project, the **Contractor shall be responsible for the travel expenses of the Special Inspector or Testing Laboratory.**
  - 1. Expenses shall be adequate to provide same-day round-trip transportation to remote plant.
  - 2. Expenses shall include travel, lodging and meals.
- C. **The Contractor shall be responsible for the cost of any retesting or re-inspection of work which fails to comply with the requirements of the Contract Documents.**

#### **1.10 CONTRACTOR RESPONSIBILITIES**

- A. Contractor's Statement of Responsibility: Each Contractor responsible for the construction of a seismic-force-resisting system, designated seismic system, or component listed in the Seismic

SPECIAL INSPECTIONS

Quality Assurance Plan shall submit a "Contractor's Statement of Responsibility" to OSE and the Architect/Engineer prior to the commencement of work. The Contractor's statement of responsibility contains the following:

1. Acknowledgement of awareness of the project's special inspection requirements.
  2. Acknowledgement that control will be exercised to obtain conformance with the construction documents approved by the Building Official.
  3. Procedures for exercising control within the contractor's organization, the method and frequency of reporting, and the distribution of the reports
  4. Identification and qualifications of the person(s) exercising such control and their position(s) in the organization.
- B. The Contractor shall cooperate with the Special Inspector and his agents so that the Special Inspections and testing may be performed without hindrance.
- C. The Contractor shall review the "Statement of Special Inspections" and shall be responsible for coordinating and scheduling inspections and tests. The Contractor shall notify the Special Inspector or Testing Laboratory at least 24 hours in advance of a required inspection or test. Un-inspected work that required inspection may be rejected solely on that basis.
- D. The Contractor shall provide incidental labor and facilities to provide access to the work to be inspected or tested, to obtain and handle samples at the site or at the source of products to be tested, and to facilitate tests and inspection, storage and curing of test samples.
- E. The Contractor shall keep at the project site the latest set of construction drawings, field sketches, approved and field use shop and erection drawings, and specifications for use by the inspectors and testing technicians.
- F. The Special Inspection program shall in no way relieve the Contractor of his obligation to perform work in accordance with the requirements of the Contract Documents or from implementing an effective Quality Control program. All work that is to be subjected to Special Inspections shall first be reviewed by the Contractor's quality control personnel.
- G. The Contractor shall be solely responsible for construction site safety.

#### **1.11 LIMITS ON AUTHORITY**

- A. The Special Inspector or Testing Laboratory may not release, revoke, alter, or enlarge on the requirements of the Contract Documents.
- B. The Special Inspector or Testing Laboratory will not have control over the Contractor's means and methods of construction.
- C. The Special Inspector or Testing Laboratory shall not be responsible for construction site safety.
- D. The Special Inspector or Testing Laboratory has no authority to stop the work except with prior written consent of the Owner.

#### **1.12 RECORDS AND REPORTS**

- A. Detailed daily reports shall be prepared of each inspection and test and submitted to the Special Inspector. Reports shall include:
  1. Name of Project
  2. Date of test or inspection
  3. Name of inspector or technician

4. Location of specific areas tested or inspected
  5. Description of test or inspection and results and interpretation of results
  6. Applicable ASTM standard or test method
  7. Weather conditions
  8. Engineer's seal and signature
  9. Corrective actions, if any
  10. Recommendation for re-inspection (if applicable)
- B. The Special Inspector shall submit interim reports at the end of each week which includes all inspections and test reports received that week. Copies shall be sent to the Construction Manager, Architect/Engineer, Contractor, and SER and a copy shall be kept on site.
  - C. Any discrepancies from the Contract Documents found during a Special Inspection shall be immediately reported to the Contractor, Construction Manager, and Architect/Engineer. If the discrepancies are not corrected, the Special Inspector shall notify the Owner and OSE. Reports shall document all discrepancies identified and the corrective action taken.
  - D. The Testing Laboratory shall immediately notify the Special Inspector, Contractor, Construction Manager, and Architect/Engineer by telephone, fax or email of any test results which fail to comply with the requirements of the Contract Documents. If conditions are not corrected, the testing laboratory shall notify the Owner and OSE.
  - E. Reports shall be submitted to the Special Inspector within 7 days of the inspection or test. Hand written reports may be submitted if final typed copies are not available. See Inspection Report Form in Section 01400 – Quality Control.
  - F. At the completion of the work requiring Special Inspections, each inspection agency and testing laboratory shall provide a statement to the Owner, Construction Manager, Architect/Engineer and Building Official that all work was completed in substantial conformance with the Contract Documents and that all appropriate inspections and tests were performed.

### **1.13 FINAL REPORT OF SPECIAL INSPECTIONS**

- A. The "Final Report of Special Inspections" shall be completed by the Special Inspector and submitted to the Owner, Construction Manager, Architect and OSE prior to the issuance of a Certificate of Use and Occupancy.
- B. The "Final Report of Special Inspections" will certify that all required inspections have been performed and will itemize any discrepancies that were not corrected or resolved.

**1.14 SCHEDULE OF SPECIAL INSPECTION AGENTS**

Project Name: USCA Pedestrian Bridge State Project # H29-9545-PG

Architect's Commission Number: \_\_\_\_\_

The construction divisions which require special inspections for this project are listed below. The following firms / individuals are designated to perform Special Inspections of the material or work for each construction division and shall be employed by the Owner.

CONSTRUCTION DIVISION	INSPECTION AGENT / FIRM	ADDRESS / TELEPHONE
<input checked="" type="checkbox"/> Soils and Foundations <input checked="" type="checkbox"/> Piles and/or Piers <input checked="" type="checkbox"/> Cast-in-Place Concrete <input checked="" type="checkbox"/> Precast Concrete <input checked="" type="checkbox"/> Masonry <input checked="" type="checkbox"/> Structural Steel <input checked="" type="checkbox"/> Cold-Formed Steel Framing <input type="checkbox"/> Spray Fire Resistant Material <input type="checkbox"/> Wood Construction <input type="checkbox"/> Exterior Insulation and Finish System <input checked="" type="checkbox"/> Mechanical & Electrical Systems <input type="checkbox"/> Architectural Systems <input type="checkbox"/> Special Cases <input type="checkbox"/> Smoke Control System <input type="checkbox"/> Metal Building Fabrication <input type="checkbox"/> Pre-Fabricated Trusses <input type="checkbox"/> Wall Panels & Veneers	<p>To be determined</p>	

1.15

**SCHEDULE OF SPECIAL INSPECTIONS**

Project Name: USCA Pedestrian Bridge State Project # H29-9545-PG

Architect's Commission Number: \_\_\_\_\_

Page 1 of 3

**Instructions**

*The Structural Engineer of Record shall determine the material and/or work on the project requiring Special Inspections. The Special Inspection requirements shall be based on Chapter 17 of the 2006 International Building Code. Any deviations from the requirements of Chapter 17 must be approved by OSE . If Inspection is by "Other", the inspecting entity shall be identified by the Owner to the Contractor prior to the execution of the Contract.*

\* Following form to be completed at completion of Construction Documents.

MATERIALS	TYPE OF INSPECTION	SPECIFICATION REFERENCE	INSPECTION BY:		
			Architect	Engineer	Other
Soils	Subgrade Preparation per Soils Report				X
	Fill Placement Materials				X
	Fill Lift Thickness				X
	In-Place Fill Density				X
	Footing Bottoms				X
Concrete	Material Certification				X
	Rebar Placement (Periodic)				X
	Reinforcing Steel Welding (Cont)				X
	Verify use of Design Mix (Periodic)				X
	Formwork				X
	Sample Slump, air, temperature (Cont)				X
	Concrete Placement (Cont)				X
	Curing (Periodic)				X
	Verification of In-Situ Strength (Periodic)				X
	Structural Steel	Fabricator Certification / QC Procedures			
Verification of high-strength bolts / washers (Periodic)					X
Inspection of high-strength bolting (Periodic)					X

MATERIALS	TYPE OF INSPECTION	SPECIFICATION REFERENCE	INSPECTION BY:		
			Architect	Engineer	Other
Structural Steel (con't)	Verification of structural steel materials				X
	Verification of weld filler materials				X
	Inspection of steel frame joints (periodic)				X
	Bracing, stiffening, member locations & connections – inspection @ completion				X
	Inspection of Structural Steel Welding:				
	a) Welder's certifications & procedures				X
	b) Penetration groove (Continuous)				X
	c) Single-pass < 5/16" (Periodic)				X
	d) Visually inspect all completed welds				X
Steel Frame Joints	Periodic Inspection of Steel Frame				X
Steel Joists	Inspection of field welds and bolts (Periodic)				X
Steel Deck	Inspection of roof deck fastening (Periodic)				X
Light Gage Steel Trusses	Fabrication and QC Procedures				
	Verification of members and fastening (Periodic)				
	Bracing and anchorage to walls				
Mechanical Components	Manufacturer certification required on mechanical equipment				
	Inspection of label & anchorage of mechanical equipment (upon completion)				
	Seismic isolators, review of submittal				
	Seismic isolators field inspection of installation (upon completion)				
	Fire Sprinkler systems installation (Periodic)				
	Manufacturer certification required on fire sprinkler system				
	Inspection of label and anchorage of fire sprinkler equipment				

MATERIALS	TYPE OF INSPECTION	SPECIFICATION REFERENCE	INSPECTION BY:		
			Architect	Engineer	Other
Exterior Windows and Glass Doors	Manufacturer conforming to NAMA / NWWDA 101 / I.S. 2 or 101 / I.S. 2 / NFAS				
Electrical Components	Grounding system - field inspection (Periodic)				X
	Seismic anchorage of emergency lighting				X



## SECTION 01417

### REGULATORY REQUIREMENTS

#### PART 1 GENERAL

- A. The following requirements of Regulatory Agencies having an interest in this project are hereby made a part of this Contract.
- B. The construction of the project, including the letting of contracts in connection therewith, shall conform to the applicable requirements of State, territorial, and local laws and ordinances to the extent that such requirements do not conflict with Federal laws and this subchapter.
- C. South Carolina Sales Tax: All applicable South Carolina sales tax shall be to the account of the Contractor.
- D. Use of chemicals: All chemicals used during the project construction or furnished for project operation, whether herbicide, pesticide, disinfectant, polymer, reactant or of other classification, must show approval of EPA or USDA. Use of all such chemicals and disposal of residues shall be in strict conformance with instructions.
- E. Safety and Health Regulations: The Contractor shall comply with the Department of Labor and Safety and Health Regulations for construction promulgated under the Occupational Safety and Health Act of 1970 (PL-91-596) and under Section 107 of the Contract Work Hours and Safety Standards Act (PL91-54).
- F. Inspection by Agencies: The representatives of the South Carolina Department of Health and Environmental Control, Lexington County and Richland County, Department of Highways and Public Transportation shall have access to the work wherever it is, in preparation or in progress, and the Contractor shall provide proper facilities for such access and inspection.
- G. Withholding for Non-Residents shall comply with the following:
  - 1. Attention of non-resident contractors is invited to Part Two, Act No. 855, Acts of the General Assembly of South Carolina 1958.
  - 2. If a non-resident contractor is the successful bidder on this project, he shall be required to post surety bond, or deposit cash or securities with the South Carolina Tax Commission in compliance with the Act. Proof of such coverage shall be filed with the Engineer before work is started.
  - 3. If the Contractor fails to comply with the regulations of the South Carolina Tax Commission, two percent (2%) of each and every payment made to the Contractor shall be retained by the Owner to satisfy such requirements.
- H. The Owner shall provide and maintain competent and adequate observation of construction as required by 40 CFR 35.2214.

END OF SECTION.

REGULATORY REQUIREMENTS

01417 - 1

## SECTION 01418

### PERMITS AND RIGHTS-OF-WAY

#### PART 1 - GENERAL

##### 1.1 DESCRIPTION

- A. Work included: This section establishes requirements pertaining to the securement and payment for licenses, building permits, rights-of-way, etc. necessary for the construction of the project.
- B. Work not included: The Owner will obtain and provide to the Contractor, as required, copies of:
  - 1. Encroachment permits, State Highway Department.
  - 2. Encroachment permits, Public Utility.
  - 3. Easements obtained to cross private property.
  - 4. S.C. Department of Health and Environmental Control Permit to Construct.
- C. Related Work:
  - 1. Documents affecting work of this section include, but are not necessarily limited to, General Conditions, Supplementary Conditions, and Sections in Division 1 of these specifications.

##### 1.2 SUBMITTALS

- A. Submit to the Engineer satisfactory evidence that all necessary licenses, building permits, etc. have been secured prior to commencing the work.

#### PART 2 - PRODUCTS

No products are required for this work.

#### PART 3 - EXECUTION

##### 3.1 BUSINESS LICENSE

- A. Determine licenses necessary to perform the work at project location.
- B. Obtain all necessary licenses at no additional cost to the Owner.

##### 3.2 BUILDING PERMITS

- A. Contractor shall secure all building permits required whether of temporary or permanent nature.

##### 3.3 RIGHTS-OF-WAYS, UTILITY LINES

- A. Owner will provide necessary right-of-way or easements for construction of utility lines, whether on privately or publicly owned property.

### 3.4 NPDES PERMIT FOR CONSTRUCTION ACTIVITY

- A. The Architect/Engineer will provide the Contractor with the approved land disturbance permit and SWPPP (if required). The Contractor is responsible for notifying the local SCDHEC office having jurisdiction at least 48 hours prior to start of construction. Contractor must read all documents pertaining to land disturbance and the control of sediment and erosion control furnished to him/her by the Architect/Engineer and abide by all requirements as stated therein.
- B. Permit application must be filed forty eight (48) hours prior to commencing construction activity.
- C. The Contractor shall use Best Management Practices (BMP) to control sediment runoff from construction areas.

### 3.5 LAND

- A. The necessary land for construction of the project will be provided by the Owner.

END OF SECTION

## SECTION 01420

### REFERENCE STANDARDS

#### PART 1 - GENERAL

##### 1.1 DESCRIPTION

- A. Throughout the Project Documents, reference is made to specifications and standards issued by nationally recognized professional and/or trade organizations.
1. Unless otherwise specifically stated, all manufacturer's catalogs, specifications, instructions or other information or literature that are referred to in the specifications shall be considered as the latest edition and/or revision of such publication that is in effect on the date of the Invitation or Advertisement for Bids.
  2. When standard specifications such as the American Society for Testing and Materials, Federal specifications, Department of Commerce (Commercial Standards), American Institute of Steel Construction, or other well-known public or trade associations, are cited as a standard to govern materials and/or workmanship, such specifications or portions thereof as referred to shall be equally as binding and have the full force and effect as though it were copied into these specifications. Such standards as are mentioned are generally recognized by and available to the trades concerned. The Construction Manager will, however, upon request of a bidder or Contractor, furnish for inspection a copy of any standard specifications mentioned or direct the bidder or Contractor to an easily available copy. Unless otherwise specifically stated, the standard specifications referred to shall be considered as the latest edition and/or revision of such specifications that is in effect on the date of the Invitation for Bids. In case of any conflicts between standard specifications and the written portion of the Specifications, the specifications as actually written herein will govern.
  3. The referenced standards are generally identified by abbreviating the name of the organization following with the specification/standard number.
  4. Unless specifically indicated otherwise, all references to standards refer to the latest edition available at the time of bidding.

##### 1.2 ABBREVIATIONS

- A. Wherever the following abbreviations are used in these Project Documents, they are to be construed the same as the respective expressions represented:

AASHTO	American Association of State Highway and Transportation Officials
ACI	American Concrete Institute
ACPA	American Concrete Pipe Association
AGA	American Gas Association
AI	Asphalt Institute
AIA	American Institute of Architects
AISC	American Institute of Steel Construction
AISI	American Iron and Steel Institute
ALS	American Lumber Standards
ANSI	American National Standards Institute, Inc.

### REFERENCE STANDARDS

APA	American Plywood Association
ARI	Air Conditioning and Refrigeration Institute
ARMA	Asphalt Roofing Manufacturers Association
ASHRAE	American Society of Heating, Refrigerating and Air Conditioning Engineers
ASME	American Society of Mechanical Engineers
ASPE	American Society of Plumbing Engineers
ASTM	American Society for Testing Materials
AWI	Architectural Woodwork Institute
AWWA	American Water Works Association
AWPA	American Wood Preservers Association
AWS	American Welding Society
BIA	Brick Institute of America
CE	Corps of Engineers
CISPI	Cast Iron Soil Pipe Institute
CRSI	Concrete Reinforcing Steel Institute
CTI	Ceramic Tile Institute of America
DOT	Department of Transportation
EPA	Environmental Protection Agency
FSS	Federal Specifications and Standards, General Services Administration
GA	Gypsum Association
IEEE	Institute of Electrical and Electronics Engineers
MBMA	Metal Building Manufacturer's Association
MCAA	Mechanical Contractors Association of America
MFMA	Marble Flooring Manufacturers Association
MIA	Marble Institute of America
ML/SFA	Metal Lath/Steel Framing Association
NAAMM	National Association of Architectural Metal Manufacturers
NAPA	National Asphalt Pavement Association
NBHA	National Builders Hardware Association
NCMA	National Concrete Masonry Association
NEC	National Electric Code (Now NFPA)
NECA	National Electrical Contractors Association
NEMA	National Electrical Manufacturers Association
NFPA	National Fire Protection Association
NIST	National Institute of Standards and Technology
NPCA	National Paint and Coating Association
NRCA	National Roofing Contractors Association
NTMA	National Terrazzo and Mosaic Association
OSHA	Occupational Safety and Health Administration
OSF	Office of School Facilities
PCA	Portland Cement Association
PCI	Pre-stressed Concrete Institute
SDI	Steel Deck Institute
S.D.I.	Steel Door Institute
SJI	Steel Joist Institute
SMACNA	Sheet Metal and Air Conditioning Contractors National Association
SPIB	Southern Pine Inspection Bureau
SSPC	Steel Structures Painting Council
TCA	Tile Council of America, Inc.
UL	Underwriters Laboratories, Inc.

END OF SECTION

#### REFERENCE STANDARDS

**SECTION 01430**  
**QUALITY ASSURANCE**

**PART 1 - GENERAL**

**1.1 REQUIREMENTS INCLUDED**

- A. Quality control of products and workmanship.
- B. Manufacturer's instructions.
- C. Manufacturer's certificates and field services.
- D. Mockups.

**1.2 RELATED REQUIREMENTS**

- A. Section 01330 Submittal Procedures: Submittal of manufacturer's instructions.
- B. Section 01450 – Quality Control and Testing Services
- C. Individual Specification Section: Mockups required.

**1.3 DESCRIPTION**

- A. Maintain quality control over supervision, subcontractors, suppliers, manufacturers, products, services, workmanship, and site conditions to produce Work in accordance with Contract Documents.

**1.4 WORKMANSHIP**

- A. Comply with industry standards of the region except when more restrictive tolerances or specified requirements indicate more rigid standards or precise workmanship.
- B. Provide suitably qualified personnel to produce Work of specified quality.
- C. Secure products in place with positive anchorage devices designed and sized to withstand stresses, vibration and racking.
- D. Provide finishes to match approved samples.

**1.5 MANUFACTURER'S INSTRUCTIONS**

- A. Require compliance with instructions in full detail, including each step in sequence.
- B. Should instructions conflict with Contract Documents, request clarification from Construction Manager before proceeding.

**1.6 MANUFACTURER'S CERTIFICATES**

- A. When required in individual specification sections, submit manufacturer's certificate, in duplicate, certifying that products meet or exceed specified requirements, executed by

responsible officer.

#### 1.7 MANUFACTURER'S FIELD SERVICES

- A. See Section 01400 - Quality Control

#### 1.8 MOCKUPS

- A. Assemble and erect complete, with specified attachment and anchorage devices, flashings, seals and finishes.
- B. Remove mockup and clear area approved by Construction Manager.

END OF SECTION

## SECTION 01500

### TEMPORARY FACILITIES

#### PART 1 - GENERAL

##### 1.1 RELATED DOCUMENTS

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

##### 1.2 SUMMARY

- A. This Section specifies requirements for temporary services and facilities, including utilities, construction and support facilities, security and protection.
- B. Temporary utilities required include but are not limited to:
  - 1. Water service and distribution.
  - 2. Temporary electric power and light.
  - 3. Telephone service and fax machine.
  - 4. Storm and sanitary sewer.
- C. Temporary construction and support facilities required include but are not limited to:
  - 1. Temporary heat.
  - 2. Field offices and storage sheds.
  - 3. Temporary roads and paving.
  - 4. Sanitary facilities, including drinking water.
  - 5. Dewatering facilities and drains.
  - 6. Temporary enclosures.
  - 7. Temporary Project identification signs and bulletin boards as described at the end of this section.
  - 8. Waste disposal services.
  - 9. Rodent and pest control.
  - 10. Construction aids and miscellaneous services and facilities.
- D. Security and protection facilities required include but are not limited to:
  - 1. Temporary fire protection.
  - 2. Barricades, warning signs, lights.
  - 3. Sidewalk bridges or enclosure fence for the site.
  - 4. Environmental protection.

##### 1.3 SUBMITTALS

- A. Temporary Utilities: Submit reports of tests, inspections, meter readings, and similar procedures performed on temporary utilities.
- B. Implementation and Termination Schedule: Submit a schedule indicating implementation and termination of each temporary utility within 15 days of the date established for commencement of the Work.

##### 1.4 QUALITY ASSURANCE

- A. Regulations: Comply with industry standards and applicable laws and regulations if authorities having jurisdiction, including but not limited to:

### TEMPORARY FACILITIES

01500-1



1. Building Code requirements.
  2. Health and safety regulations.
  3. Utility company regulations.
  4. Police, Fire Department, and Rescue Squad rules.
  5. Environmental protection regulations.
- B. Standards: Comply with NFPA Code 241, "Building Construction and Demolition Operations", ANSI-A10 Series standards for "Safety Requirements for Construction and Demolition", and NECA Electrical Design Library "Temporary Electrical Facilities."
1. Refer to "Guidelines for Bid Conditions for Temporary Job Utilities and Services," prepared jointly by AGC and ASC, for industry recommendations.
  2. Electrical Service: Comply with NEMA, NECA, and UL standards and regulations for temporary electric service. Install service in compliance with National Electric Code (NFPA 70).
- C. Inspections: Arrange for authorities having jurisdiction to inspect and test each temporary utility before use. Obtain required certifications and permits.

## 1.5 PROJECT CONDITIONS

- A. Temporary Utilities: Prepare a schedule indicating dates for implementation and termination of each temporary utility. At the earliest feasible time, when acceptable to the Owner, change over from use of temporary service to use of the permanent service.
- B. Conditions of Use: Keep temporary services and facilities clean and neat in appearance. Operate in a safe and efficient manner. Take necessary fire prevention measures. Do not overload facilities, or permit them to interfere with progress. Do not allow hazardous dangerous or unsanitary conditions, or public nuisances to develop or persist on the site.

## PART 2 - PRODUCTS

### 2.1 MATERIALS

- A. General: Provide new materials. If acceptable to the Architect, undamaged, previously used equipment in serviceable condition may be used. Provide equipment suitable for use intended.
- B. Electrical Outlets; Provide properly configured NEMA polarized to prevent insertion of 110-120 volt plugs into higher voltage outlets. Provide receptacle outlets equipped with ground-fault circuit interrupters, reset button and pilot light, for connection of power tools and equipment.
- C. Electrical Power Cords: Provide grounded extension cords; use "hard-service" cords where exposed to abrasion and traffic. Provide receptacle outlets equipped with ground-fault circuit interrupters, reset button and pilot light, for connection of power tools and equipment.
- D. Lamps and Light Fixtures: Provide general service incandescent lamps of wattage required for adequate illumination. Provide guard cages or tempered glass enclosures, where exposed to breakage. Provide exterior fixtures where exposed to moisture.
- E. Heating Units: Provide temporary heating units that have been tested and labeled by UL, FM, or another recognized trade association related to the type of fuel being consumed.

- F. Temporary Offices: Provide prefabricated or mobile units or similar job-built construction with lockable entrances, operable windows and serviceable finishes. Provide heated and air-conditioned units on foundations adequate for loading required.
- G. Temporary Toilet Units: Provide self-contained single-occupant toilet units of the chemical, aerated re-circulation, or combustion type, properly vented and fully enclosed with a glass fiber reinforced polyester shell or similar nonabsorbent material.
- H. First Aid Suppliers: Comply with governing regulations.
- I. Fire Extinguishers: Provide hand-carried, portable UL-rated, class "A" fire extinguishers for temporary offices and similar spaces. In other locations provide hand-carried, portable, UL-rated, class "ABC" dry chemical extinguishers, or a combination or extinguishers of NFPA recommended classes for the exposures.
  - 1. Comply with NFPA 10 and 214 for classification, extinguishing agent and size required by location and class of fire exposure.
- J. Security Fencing: Provide temporary 6' high chain link security fencing as indicated along construction limit lines.
- K. Temporary Project Sign: Provide construction sign as described by the Contract Documents. Locate as directed by Architect/Owner.

### PART 3 - EXECUTION

#### 3.1 INSTALLATION

- A. Use qualified personnel for installation of temporary facilities. Locate facilities where they will serve the Project adequately and result in minimum interference with performance of the Work. Relocate and modify facilities as required.
- B. Provide each facility ready for use when needed to avoid delay. Maintain and modify as required. Do not remove until facilities are no longer needed, or are replaced by authorized use of completed permanent facilities.
- C. Temporary Facilities to be by General Construction Contractor unless noted otherwise or needed by the respective prime contractors to commence, install or complete their required work.
- D. Once installed the cost of maintenance and monthly service charge for all utilities shall be borne by the general contractor.

#### 3.2 TEMPORARY UTILITY INSTALLATION

- A. Unless otherwise noted the general contractor shall be responsible for providing and maintaining all temporary utilities and support facilities.
- B. Engage the appropriate local utility company to install temporary service or connect to existing service. Where the company provides only part of the service, provide the remainder with matching, compatible materials and equipment; comply with the company's recommendations.
  - 1. Arrange with the company and existing users for a time when service can be interrupted, where necessary, to make connections for temporary services.

2. Provide adequate capacity at each stage of construction. Prior to temporary utility availability, provide trucked-in services.
  3. Temporary (construction) power supplied by contractor and water may be obtained from the existing school facilities; however, the Owner must be consulted and approve exact location(s) and details prior to the taps. The Owner reserves the right to revoke this "privilege" if it is being abused and require the contractor(s) to obtain these services from other (off-site) means.
  4. Use Charges: Cost or use charges for temporary facilities are not chargeable to the Owner or Architect, and will not be accepted as a basis of claims for a Change Order.
- C. Water Service (Plumbing Contractor): Install water service and distribution piping of sizes and pressures adequate for construction until permanent water service is in use.
1. Sterilization: Sterilize temporary water piping prior to use.
  2. Permanent Tap: Tap fees and all materials and labor associated with permanent water service shall be provided by the plumbing contractor and coordinated and approved by governing authorities.
- D. Temporary Electric Power Service (Electrical Contractor): Provide weatherproof, grounded electric power service and distribution system of sufficient size, capacity, and power characteristics during construction period. Include meters, transformers, overload protected disconnects, automatic ground-fault interrupters and main distribution switch gear.
1. Except where underground service must be used, install electric power service overhead.
  2. Power Distribution System: Install wiring overhead, and rise vertically where least exposed to damage. Where permitted, wiring circuits not exceeding 125 Volts, AC 20 ampere rating, and lighting circuits may be nonmetallic sheathed cable where overhead and exposed for surveillance.
- E. Temporary Lighting (Electrical Contractor): Whenever overhead floor or roof deck has been installed, provide temporary lighting with local switching.
1. Install and operate temporary lighting that will fulfill security and protection requirements, without operating the entire system, and will provide adequate illumination for construction operations and traffic conditions.
  2. The electrical contractor shall be responsible for all maintenance of temporary lighting.
- F. Temporary Telephones: Provide temporary telephone service for all personnel engaged in construction activities, throughout the construction period. Install telephone on a separate line for each temporary office and first aid station. Where an office has more than two occupants, install a telephone for each additional occupant or pair of occupants. Long distance charges will be paid for by the responsible prime contractor.
1. At each telephone, post a list of important telephone numbers.
- G. Sewers and Drainage: If sewers are available, providing temporary connections to remove effluent that can be discharged lawfully. If sewers are not available or cannot be used, provide drainage ditches, dry wells, stabilization ponds and similar facilities. If

#### TEMPORARY FACILITIES

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neither sewers nor drainage facilities can be lawfully used for discharge of effluent, provide containers to remove and dispose of effluent off the site in a lawful manner.

1. Filter out excessive amounts of soil, construction debris, chemicals, oils and similar contaminants that might clog sewers or pollute waterways before discharge.
  2. Connect temporary sewers to the municipal system as directed by the sewer department officials.
  3. Maintain temporary sewers and drainage facilities in a clean, sanitary condition. Following heavy use, restore normal conditions promptly.
- H. Provide earthen embankments and similar barriers in and around excavations and sub-grade construction, sufficient to prevent flooding by runoff of storm-water from heavy rains.

### 3.3 TEMPORARY CONSTRUCTION AND SUPPORT FACILITIES INSTALLATION

- A. Locate field offices, storage sheds, sanitary facilities, and other temporary construction and support facilities for easy access.
1. Maintain temporary construction and support facilities until near Substantial Completion. Remove prior to Substantial Completion. Personnel remaining after Substantial Completion will be permitted to use permanent facilities, under conditions acceptable to the Owner.
- B. Provide incombustible construction for offices, shops and sheds located within the construction area, or within 30 feet of building lines. Comply with requirements of NFPA 241.
- C. Temporary Heat: Provide temporary heat required by construction activities, for curing or drying of completed installations or protection of installed construction from adverse effects of low/high temperatures or high humidity. Select safe equipment that will not have a harmful effect on completed installations or elements being installed. Coordinate ventilation requirements to produce the ambient conditions required and minimize consumption of energy. The general contractor shall not rely upon the permanent HVAC system being available during the construction period and shall be responsible for the heat required to install and maintain finishes and finish material until such time as permanent heat is available. The general contractor will be responsible for any cost associated with warrantee extension due to this action.
- D. Heating Facilities: Except where use of the permanent system is authorized, provide vented self-contained LP gas or fuel oil heaters with individual space thermostatic control.
1. Use of gasoline-burning space heaters, open flame, or salamander type heating units is prohibited.
- E. Contractor and Construction Manager Field Offices: Provide insulated, weather tight temporary offices of sufficient size to accommodate required office personnel at the Project site. Include in the base bid office space for the Architects, Construction Manager, and Owners use. Space must have indoor plumbing, HVAC, and be equipped with desks, table, and chairs as required. Keep the office clean and orderly for use for progress meetings. Furnish and equip offices as required but most importantly, plan table shall have most up-to-date set of plans and specs which shall serve as the "control set." Field Office shall have a conference room area for holding weekly and monthly project meetings with the Owner, Architect, Contractor and Construction Manager.

- F. Storage and Fabrication Sheds: Install storage and fabricated sheds, sized, furnished and equipped to accommodate materials and equipment involved, including temporary utility service. Sheds may be open shelters or fully enclosed spaces within the building or elsewhere on the site. Each contractor shall provide for their own storage requirements.
- G. Temporary Paving: Construct and maintain temporary roads and paving to adequately support the indicated loading and to withstand exposure to traffic during the construction period. Locate temporary paving for roads, storage areas and parking where the same permanent facilities will be located. Review proposed modifications to permanent paving with the Architect.
  - 1. Paving: Comply with South Carolina Department of Transportation Standard Specifications for Highway Construction (2007) for construction and maintenance of temporary paving.
  - 2. Coordinate temporary paving development with sub-grade grading, compaction, installation and stabilization of sub-base, and installation of base and finish courses of permanent paving.
  - 3. Install temporary paving to minimize the need to rework the installations and to result in permanent roads and paved areas that are without damage to deterioration when occupied by the Owner.
  - 4. Delay installation of the final course of permanent asphalt concrete paving until immediately before Substantial Completion. Coordinate with weather conditions to avoid unsatisfactory results.
  - 5. Extend temporary paving in and around the construction area as necessary to accommodate delivery and storage of materials, equipment usage, administration and supervision.
- H. Sanitary facilities include temporary toilets, wash facilities and drinking water fixtures. Comply with regulations and health codes for the type, number, location, operation and maintenance of fixtures and facilities. Install where facilities will best serve the Project's needs.
- I. Dewatering facilities and drains: For temporary drainage and dewatering facilities and operations not directly associated with construction activities included under individual Sections, comply with dewatering requirements of applicable Division - 2 sections. Where feasible, utilize the same facilities. Maintain the site, excavations and construction free of water.
- J. Temporary Enclosures: Provide temporary enclosure for protection of construction in progress and completed, from exposure, foul weather, other construction operations and similar activities.
  - 1. Where heat is needed and the permanent building enclosure is not complete, provide temporary enclosures where there is no other provision for containment of heat. Coordinate enclosure with ventilating and material drying or curing requirements to avoid dangerous conditions and effects.
  - 2. Install tarpaulins securely, with incombustible wood framing and other materials.
  - 3. Close openings through floor or roof deck and horizontal surfaces with load-bearing wood-framed construction.

- K. Temporary Lifts and Hoists: Provide facilities for hoisting materials and employees. Truck cranes and similar devices used for hoisting materials are considered “tools and equipment” and not temporary facilities.
- L. Project Identification and Temporary Signs: Prepare project identification and other signs of the size indicated; install signs where indicated to inform the public and persons seeking entrance to the Project. Support on posts or framing of preservative treated wood to steel. Do not permit installation of unauthorized signs.
  - 1. Project Identification Signs: Engage an experienced sign painter to apply graphics. Comply with details indicated.
  - 2. Temporary Signs: Prepare signs to provide directional information to construction personnel and visitors.
- M. Temporary Exterior Lighting: Install exterior yard and sign lights so that signs are visible when work is being performed.
- N. Collection and Disposal of Waste: Collect waste from construction areas and elsewhere daily. Comply with requirements of NFPA 241 for removal of combustible waste material and debris. Enforce requirements strictly. Do not hold materials more than 7 days during normal weather or 3 days when the temperature is expected to rise above 80 deg F (27 deg C). Handle hazardous, dangerous, or unsanitary waste materials separately from other waste by containerizing properly. Dispose of material in a lawful manner. The general contractor shall provide a dumpster for the use of all contractors on the job. Each prime shall reimburse the general for the disposal cost associated with their debris.
- O. Rodent and Pest Control: Before deep foundation work has been completed, retain a local exterminator or pest control company to recommend practices to minimize attraction and harboring of rodents, roaches, and other pests. Employ this service to perform extermination and control procedures at regular intervals so the Project will be relatively free of pests and their residues at Substantial Completion. Perform control operations in a lawful manner using environmentally safe materials.

### 3.4 SECURITY AND PROTECTION FACILITIES INSTALLATION

- A. Except for use of permanent fire protection as soon as available, do not change over from use of temporary security and protection facilities to permanent facilities until Substantial Completion, or longer as requested by the Architect.
- B. Temporary Fire Protection: Until fire protection needs are supplied by permanent facilities, install and maintain temporary fire protection facilities of the types needed to protect against reasonably predictable and controllable fire losses. Comply with NFPA 10 “Standard for Portable Fire Extinguishers,” and NFPA 241 “Standard for Safeguarding Construction, Alterations and Demolition Operations.”
  - 1. Locate fire extinguishers where convenient and effective for their intended purpose, but not less than one extinguisher on each floor at or near each usable stairwell.
  - 2. Store combustible materials in containers in fire-safe locations.
  - 3. Maintain unobstructed access to fire extinguishers, fire hydrants, temporary fire protection facilities, stairways and other access route for fighting fires. Prohibit smoking in hazardous fire exposure areas.
  - 4. Provide supervision of welding operations, combustion type temporary heating

units, and similar sources of fire ignition.

- C. Permanent Fire Protection: At the earliest feasible date in each area of the Project, complete installation of the permanent fire protection facility, including connected services, and place into operation and use. Instruct key personnel on use of facilities.
- D. Barricades, Warning Signs, and Lights: Comply with standards and code requirements of erection of structurally adequate barricades. Paint with appropriate colors, graphics and warning signs to inform personnel and the public of the hazard being protected against. Where appropriate and needed provide lighting, including flashing red or amber lights.
- E. Enclosure Fence: Prior to beginning construction, install an enclosure fence with lockable entrance gates. Locate where indicated, or enclose the portion determined sufficient to accommodate construction operations. Install in a manner that will prevent people, dogs, and other animals from easily entering the site, except by the entrance gates.
  - 1. Provide 6' high open-mesh, chain-link fencing with posts set in a compacted mixture of gravel and earth.
- F. Security Enclosure and Lockup: Install substantial temporary enclosure of partially completed areas of construction. Provide locking entrances to prevent unauthorized entrance, vandalism, theft, and similar violations of security.
  - 1. Storage: Where materials and equipment must be stored, and are of value or attractive for theft, provide a secure lockup. Enforce discipline in connection with the installation and release of material to minimize the opportunity for theft and vandalism.
- G. Environmental Protection: Provide protection, operate temporary facilities and conduct construction in ways, and by methods that comply with environmental regulations, and minimize the possibility that air, waterways, and subsoil might be contaminated or polluted, or that other undesirable effects might result. Avoid use of tools and equipment which produce harmful noise. Restrict use of noise making tools and equipment to hours that will minimize complaints from persons or firms near the site.

### 3.5 OPERATION, TERMINATION AND REMOVAL

- A. Supervision: Enforce strict discipline in use of temporary facilities. Limit availability of temporary facilities to essential intended uses to minimize waste and abuse.
- B. Maintenance: Maintain facilities in good operating condition until removal. Protect from damage by freezing temperatures and similar elements.
  - 1. Maintain operation of temporary enclosures, heating, cooling, humidity control, ventilation and similar facilities on a 24-hour day basis where required to achieve results and to avoid possibility of damage.
  - 2. Protection: Prevent water filled piping from freezing. Maintain markers for underground lines. Protect from damage during excavation operations.
- C. Termination and Removal: Unless the Architect/Engineer requests that it be maintained longer, remove each temporary facility when the need has ended, or when replaced by authorized use of a permanent facility, or no later than Substantial Completion. Complete, or if necessary, restore permanent construction that may have been delayed because of interference with temporary facility. Repair damaged work, clean exposed surfaces and replace construction that cannot be satisfactorily repaired.

1. Materials and facilities that constitute temporary facilities are property of the Contractor. The Owner reserves the right to take possession of Project identification signs.
2. Remove temporary paving that is not intended or acceptable for integration into permanent paving. Where the area is intended for landscape development, remove soil and aggregate fill that does not comply with requirements for fill or subsoil in the area. Remove materials contaminated with road oil, asphalt, other petrochemical compounds, and other substances, which might impair growth of plant materials or lawns. Repair or replace street paving, curbs, and sidewalks at the temporary entrances, as required by the governing authority.
3. At Substantial Completion, clean and renovate permanent facilities that have been used during the construction period, including but not limited to:
  - a. Replace air filters and clean inside of ductwork and housings.
  - b. Replace significantly worn parts and parts that have been subject to unusual operating conditions.
  - c. Replace lamps that are burned out or noticeably dimmed by substantial hours of use.

END OF SECTION



## SECTION 01640

### OWNER FURNISHED PRODUCTS

#### PART 1 GENERAL

##### 1.01 DESCRIPTION

- A. Work Included: Coordinate and, if required, install Owner Furnished Equipment as shown on the drawings, as specified herein, and as needed for a complete and proper installation.
  - 1. Owner Furnished/Contractor Installed (OF/CI) Equipment items and Owner Furnished/Owner Installed (OF/OI) Equipment items will be identified on the drawings or in the specifications.
  - 2. Connections and interface: All necessary connections and interface with new construction shall be the responsibility of the General Contractor. This includes but is not limited to mechanical, plumbing, and electrical connections, sealing and trim closures.

##### 1.02 QUALITY ASSURANCE

- A. Use adequate numbers of skilled workmen who are thoroughly trained and experienced in the necessary crafts and who are completely familiar with the specified requirements and the methods needed for proper performance of the work of this Section.

##### 1.03 SUBMITTALS

- A. Product Data: In accordance with the Contractor's project schedule, the Owner shall submit to the Contractor the following:
  - 1. Materials list of items proposed to be provided under this Section.
  - 2. Manufacturer's specifications, catalog cut sheets, installation and instructions.
  - 3. Shop drawings indicating assembly and construction interface details.

##### 1.04 COORDINATION - FOR OF/CI EQUIPMENT

- A. Owner's Responsibilities:
  - 1. Arrange for and deliver Owner reviewed Shop Drawings, Product Data, and Samples to Contractor.
  - 2. Arrange and pay for Product delivery to site.
  - 3. On delivery, inspect Products jointly with Contractor.
  - 4. Submit claims for transportation damage and replace damaged, defective, or deficient items.

OF/CI AND OF/OI EQUIPMENT

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5. Arrange for manufacturer's warranties, inspections, and service.

B. Contractor's Responsibilities:

1. Review Owner reviewed Shop Drawings, Product Data, and Samples.
2. Receive and unload Products at site; inspect for completeness or damage, jointly with Owner.
3. Handle, store, install and finish Products.
4. Repair or replace items damaged after receipt.

1.05 COORDINATION FOR OF/OI EQUIPMENT

A. Owner's Responsibilities:

1. Arrange for and deliver Owner reviewed Shop Drawings, Product Data and Samples to Contractor.
2. Arrange and pay for Product delivery to site.
3. On delivery, inspect Products jointly with Contractor.
4. Submit claims for transportation damage and replace damaged, defective, or deficient items.
5. Arrange and pay for Product installation at site.
6. Arrange for manufacturer's warranties, inspections, and service.

B. Contractor's Responsibilities:

1. Review Owner reviewed Shop Drawings, Product Data and Samples to become thoroughly familiar with the work. Establish work schedules and material deliveries.
2. Receive and unload Products at site, inspect for completeness or damage, jointly with Owner.
3. Coordinate work with Owner's installation Contractor. Provide temporary power, water, etc. to facilitate work.
4. Provide storage, if necessary, of products prior to installation.
5. Make final connections to permanent utility services, such as power, water, gas, sewer to allow for full functional use.
6. Protect all completed work.
7. Repair or replace items damaged after completion.

8. Coordination training sessions with Owner's personnel in the proper operation of the equipment.

## PART 2 PRODUCTS

2.01 GENERAL: The following equipment will be furnished by the Owner. This general listing is for rough-in information and coordination. See the drawings for the location of the installation.

### 2.02 EQUIPMENT

- A. Owner Furnished/Contractor Installed (OF/CI)
  1. Door Hardware (Paid via Hardware Allowance)
- B. Owner Furnished. Owner Installed (OF/OI)

### 3.03 SURFACE CONDITIONS

- A. Examine the area and conditions under which work of this Section will be performed. Correct conditions detrimental to timely and proper completion of the Work. Do not proceed until unsatisfactory conditions are corrected.

### 3.04 INSTALLATION

- A. Coordinate as required with other trades to assure proper and adequate provision in the work of those trades for interface with the work of this Section.
- B. For OF/CI equipment, install the work of this Section in strict accordance with the original design, pertinent requirements of governmental agencies having jurisdiction, and the manufacturer's recommended installation procedures as approved, anchoring all components firmly into position for long life under hard use.
- C. For OF/CI and OF/OI equipment, upon completion of installation and hookup to utilities, put each operating component through at least five complete operating cycles, adjusting as needed to secure optimum operation level.
- D. Promptly remove from the job site all cartons and packing material associated with the work of this Section.

### 3.05 RESPONSIBILITY CHARTS

- A. Refer to the attached charts for representation of areas of responsibility between OF/CI and OF/OI System of Products.

**OWNER FURNISHED/CONTRACTOR INSTALLED (OF/CI) TYPICAL  
RESPONSIBILITY CHART**

Item	Description	Owner	Contractor	Manufacturer	A/E	Construction Manager
1	List of Equipment				X	
2	Bidding Negotiations					X
3	Purchase Equipment	X				
4	Produce Equipment Shop Drawings			X		
5	Shop Drawing Approval				X	
6	Schedule Equipment Delivery Dates		X			
7	Deliver to Jobsite			X		
8	Unload at Jobsite		X			
9	Inspect at Jobsite	X	X			X
10	Property Insurance	X	X			
11	Installation		X			
12	Equipment Startup		X			
13	Clean-up		X			
14	Warranty		(Labor) X	(Material) X		

**OWNER FURNISHED/OWNER INSTALLED (OF/OI) TYPICAL**

**RESPONSIBILITY CHART**

Item	Description	Owner	Contractor	Manufacturer	A/E	Construction Manager
1	List of Equipment				X	
2	Bidding Negotiations					X
3	Purchase Equipment	X				
4	Produce Equipment Shop Drawings			X		
5	Shop Drawing Approval				X	
6	Schedule Equipment Delivery Dates		X			
7	Deliver to Jobsite			X		
8	Unload at Jobsite		X			
9	Inspect at Jobsite	X	X			X
10	Property Insurance	X				
11	Installation	X				
12	Equipment Startup	X	X			
13	Clean-up	X				
14	Warranty	(Labor) X		(Material) X		

END OF SECTION

## SECTION 01650

### PRODUCT DELIVERY AND HANDLING

#### PART 1 - GENERAL

##### 1.1 DESCRIPTION

- A. Work included: Protect products scheduled for use in the work by means including, but not necessarily limited to, those described in this Section.
- B. Related work:
  - 1. Documents affecting work of this Section include, but are not necessarily limited to, Sections in Division 1 of these specifications.
  - 2. Additional procedures also may be prescribed in other Sections of these specifications.

##### 1.2 QUALITY ASSURANCE

- A. Include within the Contractor's quality assurance program such procedures as are required to assure full protection of work and materials.

##### 1.3 MANUFACTURERS' RECOMMENDATIONS

- A. Except as otherwise approved by the Engineer, determine and comply with manufacturer's recommendations on product handling, storage and protection.

##### 1.4 PRODUCT DELIVERY

- A. Schedule delivery to minimize long-term storage at the site and to prevent overcrowding of construction spaces.
- B. Coordinate delivery with installation time to ensure minimum holding time for items that are flammable, hazardous, easily damaged, or sensitive to deterioration, theft, and other losses.

##### 1.5 PACKAGING

- A. Deliver products to the job site in their manufacturer's original container, with labels intact and legible.
  - 1. Maintain packaged materials with seals unbroken and labels intact until time of use.
  - 2. Promptly remove damaged material and unsuitable items from the job site and promptly replace with material meeting the specified requirements, at no additional cost to the Owner.
- B. The Engineer may reject as non-complying such material and products that do not bear identification satisfactory to the Engineer as to manufacturer, grade, quality and other pertinent information.

## 1.6 PROTECTION OF MATERIAL AND WORK

### A. General

1. Carefully and properly protect all materials of every description, both before and after installation.
2. Provide any enclosing or special protection from weather as deemed necessary by the Engineer at no additional cost to the Owner.

### B. Partial payments under the Contract will not relieve the Contractor from responsibility.

1. When materials and work at the site which have been partially paid for are not adequately protected by the Contractor, such materials will be protected by the Owner at the expense of the Contractor and no further partial payment thereon will be made.

### C. Maintain finished surfaces clean, unmarred, and suitably protected until accepted by the Owner.

## 1.7 STORAGE

- A. Store all items of equipment, component parts, etc. in accordance with the manufacturers' recommendations or as may otherwise be necessary to prevent damage or deterioration of any sort.

## 1.8 REPAIRS AND REPLACEMENTS

- A. In the event of damage, promptly make replacements and repairs to the approval of the Engineer and at no additional cost to the Owner.
- B. Additional time required to secure replacements and to make repairs will not be considered by the Engineer to justify an extension in the contract time of completion.

END OF SECTION

## SECTION 01720

### PROJECT LAYOUT AND FIELD ENGINEERING

#### PART 1 - GENERAL

##### 1.1 DESCRIPTION

- A. Work included: Provide such field engineering services, including survey and civil engineering, as are required for proper completion of the Work including, but not necessarily limited to:
1. Establish and maintain all horizontal and vertical reference points, grades, lines and planes as required to construct project as indicated, specified, or both.
  2. Structural design of shores, forms and similar items provided by the Contractor as part of his means and methods of Construction.
- B. Related Work:
1. Documents affecting work of this Section include, but are not necessarily limited to, General Conditions, Supplementary Conditions, and Sections in Division 1 of these Specifications.
  2. Additional requirements for field engineering also may be described in other Sections of these Specifications.

##### 1.2 QUALITY ASSURANCE

- A. Use adequate numbers of skilled workmen who are thoroughly trained and experienced in the necessary craft and who are completely familiar with the specified requirements and the methods needed for proper performance of the work of the Section.
1. Surveyor: Engage a Registered Land Surveyor registered in the State where the project is located, to perform land surveying services required.
  2. Engineer: Engage a Professional Engineer of the discipline required, registered in the State in which the project is located, to perform required engineering services.

##### 1.3 SUBMITTALS

- A. Comply with pertinent provisions of Section 01330 - Submittal Procedures.
- B. Upon request of the Construction Manager and/or Architect/Engineer, submit:
1. Data demonstrating qualifications of persons proposed to be engaged for field engineering services.
  2. Documentation verifying accuracy of field engineering work.
  3. Certification, signed by a registered land surveyor, certifying that elevations and



locations of improvements are in conformance with requirements of the Contract Documents. The cost for registered land surveyors shall be included in the Contractors bid.

- C. Final Property Survey: Prior to Substantial Completion, prepare a final property survey showing significant features that have resulted from construction of the project. Include a certification signed by the surveyor that lines and levels of the project are accurately positioned as shown on the survey and in accordance with the contract documents.

## PART 2- PRODUCTS

### 2.01 ENGINEERING EQUIPMENT

- A. Transit and measuring devices shall be calibrated to layout site and building work indicated.

### 2.02 OTHER LAYOUT EQUIPMENT

- A. Provide stakes and batter boards of size and quality to execute the work indicated, Use wire and non-stretching cord to establish lines for site, paving and building work.

## PART 3 - EXECUTION

### 3.01 BENCHMARKS

- A. The contractor shall maintain carefully all benchmarks, monuments and other reference points throughout execution of this work. If these are disturbed or destroyed, same shall be replaced and rest as directed by the Architect/Engineer at Contractor's expense.

### 3.02 LAYOUT

- A. Stake site improvements relative to reference lines indicated on plan.
- B. Locate storage sheds, temporary office and topsoil stockpile so as to best advance progress of work and as approved by architect.

### 3.03 SITE CONDITIONS

- A. Before commencing work, verify benchmarks, reference points, and conditions where new work ties into existing work.

### 3.04 ADDITIONAL PROCEDURES

- A. In addition to procedures necessary for proper performance of the Contractor's responsibilities:
  - 1. Locate and protect control points before starting work on the site.
  - 2. Preserve a minimum of two permanent reference points during progress of the

Work and through completion of the Work. Locate permanent reference points on as-built documents.

3. Do not change or relocate reference points or items of the Work without specific approval from the Architect/Engineer.
4. Promptly advise the Construction Manager when a reference point is lost or destroyed, or required relocation because of other changes in the Work.
  - a. Upon direction of the Construction Manager, require the field engineer to replace reference stakes or markers.
  - b. Locate such replacements according to the original survey control.
5. Existing utilities and equipment: The existence and location of underground and other utilities and construction indicated as existing are not guaranteed. Before beginning any work, investigate and verify the existence and location of underground utilities and other construction.
  - a. Prior to construction, verify the location and invert elevation at points of connection of sanitary sewer, storm sewer and water service piping.

END OF SECTION

## SECTION 01730

### CUTTING AND PATCHING

#### PART 1 - GENERAL

##### 1.1 Description

- A. Work included: This Section establishes general requirements pertaining to cutting (including excavating), fitting and patching of the work required to:
  - 1. Make the several parts fit properly;
  - 2. Uncover work to provide for installing, inspection, both, of ill-timed work;
  - 3. Remove and replace work not conforming to requirements of the Contract Documents; and
  - 4. Remove and replace defective work.
- B. Related Work:
  - 1. Documents affecting work of this section include, but are not necessarily limited to, NCLC, Supplementary Conditions, and Sections in Division 1 of these Specifications.
  - 2. In addition to other requirements specified, upon the Construction Managers and/or Architect/Engineer's request to uncover work to provide for inspection by the Construction Manager and/or Architect of covered work, and remove samples of installed materials for testing.
  - 3. Do not cut or alter work performed under separate contracts without the Construction Manager's and Architect/Engineer's written permission.

##### 1.2 QUALITY ASSURANCE

- A. Use adequate numbers of skilled workmen who are thoroughly trained and experienced in the necessary crafts and who are completely familiar with the specified requirements and the methods needed for proper performance of the work of this section.

##### 1.3 SUBMITTALS

- A. Request for Construction Manager's and/or Architect/Engineer's consent:
  - 1. Prior to cutting which effects structural safety, submit written request to the Construction Manager and/or Architect/Engineer for permission to proceed with cutting.
  - 2. Should conditions of the Work, or schedule indicate a required change of materials or methods for cutting and patching, so notify the Construction Manager and/or Architect/Engineer and secure his written permission and the required Change Order prior to proceeding.
- B. Notices to the Construction Manager and/or Architect/Engineer:

1. Prior to cutting and patching performed pursuant to the Construction Manager's and/or Architect/Engineer's instructions, submit cost estimate to the Construction Manager and Architect. Secure the Construction Manager's and the Architect/Engineer's approval of cost estimates and type of reimbursement before proceeding with cutting and patching.
2. Submit written notice to the Construction Manager and/or Architect/Engineer designating the time the Work will be uncovered, to provide for the Construction Manager's and/or Architect/Engineer's observation.

## PART 2 - PRODUCTS

### 2.1 MATERIALS

- A. For replacement of items removed, use materials complying with pertinent Sections of these Specifications.

### 2.2 PAYMENT FOR COSTS

- A. The Owner will reimburse the Contractor for cutting and patching performed pursuant to the written Change Order, after claim for such reimbursement is submitted by the Contractor and approved by the Construction Manager and Architect/Engineer. Perform other cutting and patching needed to comply with the Contract Documents at no additional cost to the Owner.

## PART 3

### 3.1 SURFACE CONDITIONS

- A. Inspection:
  1. Inspect existing conditions, including elements subject to movement or damage during cutting, excavating, patching and backfilling.
  2. After uncovering the work, inspect conditions affecting installation of new work.
- B. Discrepancies:
  1. If uncovered conditions are not as anticipated, immediately notify the Construction Manager and/or Architect/Engineer and secure needed directions.
  2. Do not proceed until unsatisfactory conditions are corrected.

### 3.2 PREPARATION PRIOR TO CUTTING

- A. Provide required protection including, but not necessarily limited to, shoring, bracing and support to maintain structural integrity of the Work.
- B. Provide required fire protection including, but not necessarily limited to, fire blankets, fire extinguishing equipment, prior to consent from Construction Manager.

### 3.3 PERFORMANCE

- A. Perform required excavating and backfilling as required under pertinent other Sections of these Specifications.
1. Perform cutting and demolition by methods which will prevent damage to other portions of the Work and provide proper surfaces to receive installation of repair and new work.
  2. Perform fitting and adjusting of products to provide finished installation complying with the specified tolerances and finishes.
  3. All penetrations made by the Contractor through walls, ceilings, and/or floors shall be sealed by the Contractor to meet the requirements of all building codes, fire codes, applicable to this project.
  4. Extent of Cutting and Patching: Cut areas in new or existing work only to the extent required to perform the work. Cutting shall be in a manner that will not disturb adjoining work as much as possible and will facilitate patching in a sound and durable manner with invisible seams between the patched areas and the existing adjoining work. Patching shall restore area to match original finish to the satisfaction of the Architect. All rejected patched areas shall be removed and replaced to provide visually acceptable and durable work as directed by the Architect.
  5. General: Employ skilled workmen to perform cutting and patching work. Except as otherwise indicated or as approved by the Architect/Engineer, proceed with cutting and patching at the earliest feasible time and complete work without delay.
  6. Cutting: Cut the work using methods that are least likely to damage work to be retained or adjoining work. Where possible review proposed procedures with the original installer; comply with original installer's recommendations.

In general, where cutting is required use hand or small power tools designed for sawing or grinding, not hammering and chopping. Cut through concrete and masonry using a cutting machine such as a carborundum saw or core drill to insure a neat hole. Cut holes and slots neatly to size required with minimum disturbance of adjacent work. To avoid marring existing finished surfaces, cut or drill from the exposed or finished side into concealed surfaces. Temporarily cover openings when not in use.

Comply with requirements of applicable sections of South Carolina Department of Transportation Standard Specifications for Highway Construction (2007) where cutting and patching requires excavating and backfilling.

- a. Generally, unless other specified, work that requires cutting shall be performed by the traded performing the work.

7. Patching: Patch with seams which are durable and as invisible as possible. Comply with specified tolerances for the work.

Where feasible, inspect and test patched areas to demonstrate integrity of work.

Restore exposed finishes of patched areas and where necessary extend finish

restoration into retained adjoining work in a manner which will eliminate evidence of patching and refinishing.

- a. Responsibility For Patching: The subcontractor will pay the masons on site to patch masonry walls that have to be cut for ductwork and any other larger opening. Holes in walls for pipe and conduit shall be drilled and grouted as required. Any damage to the fire rated construction will be the responsibility of the subcontractor to have properly repaired to meet the UL rating and meet approval of the Architect/Engineer. The ultimate responsibility for all patching shall be on the General Contractor to provide an acceptable patch as determined by the Architect/Engineer. All patching determined by the Architect/Engineer to be unacceptable shall be corrected by personnel skilled and qualified in installing the material to be patched.
  - b. All patching shall be performed by personnel skilled in patching the substrate that has been disturbed. The subcontractor who performed the cutting shall be responsible to pay the appropriate personnel to install the patching material.
8. Cleaning: Thoroughly clean areas and spaces where work is performed or used as access to work. Remove completely paint, mortar, oils, putty and items of similar nature. Thoroughly clean piping, conduit and similar features before painting or other finishing is applied. Restore damaged pipe covering to its original condition.

END OF SECTION

## SECTION 01740

### CLEANING

#### PART 1 - GENERAL

##### 1.1 DESCRIPTION

1.1.1 Work included: Throughout the construction period, maintain the buildings and site in a standard of cleanliness as described in this section.

1.1.2 Related work:

- A. Documents affecting work of this section include but are not necessarily limited to General Conditions, Supplemental Conditions, and Sections in Division 1 of these Specifications.
- B. In addition to standards described in this section, comply with requirements for cleaning as described in pertinent other sections of these Specifications.

##### 1.2 QUALITY ASSURANCE

1.2.1 Conduct daily inspection and more often if necessary, to verify that requirements for cleanliness are being met.

1.2.2 In addition to the standards described in this section, comply with pertinent requirements of governmental agencies having jurisdiction.

#### PART 2 - PRODUCTS

##### 2.1 CLEANING MATERIALS AND EQUIPMENT

2.1.1 Provide required personnel, equipment and materials needed to maintain the specified standard of cleanliness.

##### 2.2 COMPATIBILITY

2.2.1 Use only the cleaning materials and equipment which are compatible with the surface being cleaned, as recommended by the manufacturer of the material.

#### PART 3 - EXECUTION

##### 3.1 PROGRESS CLEANING

###### 3.1.1 General

- A. Retain stored items in an orderly arrangement allowing maximum access, not impeding traffic or drainage and providing required protection of materials.
- B. Do not allow accumulation of scrap, debris, waste material and other items not required for construction of this work.

- C. At least twice each month and more often if necessary, completely remove all scrap, debris and waste material from the job site. Provide adequate storage for all items waiting removal from the job site, observing requirements for fire protection and protection of the ecology.

#### 3.1.2 Site

- A. Daily, and more often if necessary, inspect the site and pick up all scrap, debris and waste material. Remove such items to the place designated for their storage.
- B. Weekly, and more often if necessary, inspect all arrangements of materials stored on the site. Restack, tidy, or otherwise service arrangements to meet the requirements of subparagraph 3.1.1A above.
- C. Maintain the site in a neat and orderly condition at all times.

### 3.2 FINAL CLEANING

- 3.2.1 "Clean," for the purpose of this Article, and except as may be specifically provided otherwise, shall be interpreted as meaning the level of cleanliness generally provided by skilled cleaners using commercial quality building maintenance equipment and materials.
- 3.2.2 Prior to completion of the work, remove from the job site all tools, surplus materials, equipment, scrap, debris, and waste. Conduct final progress cleaning as described in paragraph 3.1 above.
- 3.2.3 Schedule final cleaning as approved by the Architect/Engineer to enable the Owner to accept a completely clean work.

END OF SECTION



## SECTION 01770

### CONTRACT CLOSE-OUT PROCEDURES

#### 1.0 GENERAL

##### 1.0.1 Deficiency Lists

- A. During the construction of the work, the Construction Manager and/or Architect/Engineer shall inspect the work for conformance to the Contract Documents.
- B. Should an inspection reveal work that is not in conformance with the Contract Documents, and if the nature of the non-conformance warrants, at the sole discretion of the Construction Manager and/or Architect/Engineer, a written list of deficiencies will be issued.
- C. The "deficiency list" as hereinafter called, shall stipulate the item or items of work that are in non-conformance and shall specify a reasonable time for the deficient work to be brought into conformance with the Contract Documents.
- D. Upon receipt of the deficiency list the Contractor shall by any and all means at his disposal, endeavor to correct the work within the time stipulated. The Contractor shall notify the Construction Manager in writing when the work has been corrected and request an inspection.
- E. If the inspection reveals the deficiency has been corrected, then the deficiency list shall be rescinded.
- F. During the period that the deficiency list is in effect, the Construction Manager may, at his option, not authorize the payment of progress billings until the deficiency list is rescinded or, in the opinion of the Construction Manager, the Contractor is making a good faith effort to correct the deficiency.

##### 1.0.2 Punch Lists/Final Inspection

- A. When the Contractor determines that his work or portions of his work are sufficiently near completion to warrant a preliminary inspection, he shall request in writing to the Construction Manager a preliminary inspection.
- B. At a mutually agreeable time, the Construction Manager and Contractor shall conduct a preliminary inspection of the work for completeness and conformance of work. Any items noted as incomplete shall be listed on a preliminary punch list, a copy of which shall be forwarded to the Contractor for completion and correction.
- C. The Construction Manager shall establish a reasonable time period for the completion or correction of all items on the preliminary inspection punch list. At the end of this time period a pre-final inspection shall be conducted.
- D. The substantial completion inspection shall include the Architect/Engineer, Owner, Construction Manager and Contractor. The Contractor shall present to

### CONTRACT CLOSE-OUT PROCEEDURES

the Architect/Engineer a written list of all work incomplete, a reason why the item of work is incomplete and give a date when the work will be complete. The substantial completion inspection shall not be conducted unless the Contractor presents the list of incomplete items.

- E. Should the Architect/Engineer find any item of work to be unacceptable he shall prepare a punch list of those items. The Contractor shall complete all items on the list within fourteen (14) days of the inspection.
- F. At the conclusion of the substantial completion inspection and if the completeness of the work allows, the Architect/Engineer shall issue a Certificate of Substantial Completion after OSE issues the certificate of occupancy. Should the amount of incomplete work be such that a Certificate of Substantial Completion cannot be issued, another substantial completion inspection shall be scheduled.
- G. Upon completion of the substantial completion punch list and provided a Certificate of Substantial Completion has been issued, a final inspection shall be held with the Owner, Architect/Engineer, Construction Manager and Contractor. Provided the inspection reveals work to be complete and all punchlist items are corrected, the Architect/Engineer shall establish the date of substantial completion.

#### 1.0.3 Project Close-Out

##### A. Final Close-Out and Payment

1. The Contractor may make Application for Final Payment after the Certificate of Substantial Completion has been issued. The following items must be submitted to the Construction Manager prior to processing of the Final Application for Payment:
  - a. Affidavit of Payment of Debts and Claims, (AIA-G706);
  - b. Consent of Surety, (AIA-G707);
  - c. Release of Liens, (AIA-G706A) from: Contractors, Sub-Contractors, and Material Suppliers;
  - d. Letter on company letterhead stating all temporary facilities, services, debris and surplus materials have been removed;
  - e. Final "Project Record Documents" as specified in Section 01780, Project Record Documents;
  - f. Operations & Maintenance Manuals as specified in Section 01780, Project Record Documents;
  - g. Final "As Built" surveyor's drawings verifying dimensions noted on stake-out plan sheet;
  - h. Guarantees, Warranties, and Bonds as specified in Section 01780, Project Record Documents;
  - i. Spare parts and replacement items as required by the Specifications;
  - j. Letter on company letterhead stating no asbestos containing material has been installed in the project;
  - k. Certificate of Final Occupancy;

### CONTRACT CLOSE-OUT PROCEEDURES

- I. Demonstration and testing of equipment has been scheduled or is completed.
- m. Property survey as required in Section 01720.

- 2. **No final payment application will be processed for payment until final inspection and final acceptance.**
- 3. Close-out time encompasses a large amount of work during a short period of time. Therefore, the Contractor is encouraged to begin to submit close-out items as soon as possible so that the Contract may be completed, thus allowing the Architect/Engineer to recommend approval of the final payment to the Owner.
- 4. As per Article 9 of the Supplementary Conditions, the Construction Manager may continue to withhold no less than 5% retainage from the Contractor until all outstanding close-out materials are submitted to the Construction Manager. It shall be at the discretion of the Construction Manager, upon consultation with the Architect, to reduce the amount of retainage on a project by project basis, upon a favorable review of the status of completion of the final punch list, the status of close-out submittals, and above all, the total amount listed on the Release of Liens submitted by the Contractor for all Sub-Contractors and Material Suppliers contracted with by the General Contractor. At no time shall the retainage be reduced to an amount less than the total of the Release of Liens submitted by the Contractor. Final payment may then be made once all remaining outstanding close-out requirements are met.

#### 1.0.4 Responsibility

- A. It shall be the Contractor's responsibility to see that all requirements of this Section of the Specifications are executed and complete in a timely manner.
- B. No provisions of this section of the Specifications shall in any way relieve the Contractor of completing his work on time and in accordance with the Project Schedule.

END OF SECTION

CONTRACT CLOSE-OUT PROCEDURES

## TECHNICAL SPECIFICATIONS

This project is to be constructed under the South Carolina Department of Transportation's Specifications for Highway Construction Edition of 2007, and the South Carolina Department of Transportation's 2004 Construction Manual, the Supplemental Technical Specifications in effect at the time of letting. For the purpose of this Contract references to the Department shall refer to The University of South Carolina Aiken (USCA). References to the "Engineer", "Resident Construction Engineer", "Director of Traffic Engineering" or "Engineer's Representative" shall refer to Chao and Associates, Inc. (Chao)

THE SOUTH CAROLINA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION, 2007 EDITION can be viewed/downloaded at the following locations:

[http://www.scdot.org/doing/construction\\_standardspec.aspx](http://www.scdot.org/doing/construction_standardspec.aspx)

-or-

[purchasing.sc.com](http://purchasing.sc.com)

THE SOUTH CAROLINA DEPARTMENT OF TRANSPORTATION 2004 CONSTRUCTION MANUAL can be viewed/downloaded at the following locations:

[http://www.scdot.org/doing/construction\\_manual.aspx](http://www.scdot.org/doing/construction_manual.aspx)

-or-

[purchasing.sc.com](http://purchasing.sc.com)

THE SOUTH CAROLINA DEPARTMENT OF TRANSPORTATION SUPPLEMENTAL TECHNICAL SPECIFICATION can be viewed/downloaded at the following locations:

[http://www.scdot.org/doing/road\\_supspec.aspx](http://www.scdot.org/doing/road_supspec.aspx)

-or-

[purchasing.sc.com](http://purchasing.sc.com)

# ARCHITECTURAL SPECIFICATIONS

## SECTION 034500 - PRECAST ARCHITECTURAL CONCRETE

### PART 1 - GENERAL

#### 1.1 RELATED DOCUMENTS

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

#### 1.2 SUMMARY

- A. Section Includes:
  - 1. Architectural precast concrete cladding **and load-bearing** units.
  - 2. Thin-brick-faced, architectural precast concrete units.

#### 1.3 ALLOWANCES

- A. Thin brick is part of Brick allowance.
- B. **Field quality-control** testing is part of testing and inspecting allowance.

#### 1.4 DEFINITIONS

- A. Design Reference Sample: Sample of approved architectural precast concrete color, finish and texture, preapproved by Architect.

#### 1.5 PREINSTALLATION MEETINGS

- A. Preinstallation Conference: Conduct conference at **Project site**.

#### 1.6 ACTION SUBMITTALS

- A. Product Data: For each type of product.
- B. Design Mixtures: For each precast concrete mixture. Include compressive strength and water-absorption tests.
- C. Shop Drawings:
  - 1. Detail fabrication and installation of architectural precast concrete units.
  - 2. Indicate locations, plans, elevations, dimensions, shapes, and cross sections of each unit.
  - 3. Indicate joints, reveals, drips, chamfers, and extent and location of each surface finish.
  - 4. Indicate details at building corners.
  - 5. Indicate separate face and backup mixture locations and thicknesses.

6. Indicate type, size, and length of welded connections by AWS standard symbols. Detail loose and cast-in hardware and connections.
  7. Indicate locations, tolerances, and details of anchorage devices to be embedded in or attached to structure or other construction.
  8. Indicate locations, extent, and treatment of dry joints if two-stage casting is proposed.
  9. Include plans and elevations showing unit location and sequence of erection for special conditions.
  10. Indicate location of each architectural precast concrete unit by same identification mark placed on panel.
  11. Indicate relationship of architectural precast concrete units to adjacent materials.
  12. Indicate locations, dimensions, and details of thin-brick units, including corner units and special shapes, and joint treatment.
  13. If design modifications are proposed to meet performance requirements and field conditions, submit design calculations and Shop Drawings. Do not adversely affect the appearance, durability, or strength of units when modifying details or materials and maintain the general design concept.
- D. Samples: Design reference samples for initial verification of design intent, for each type of finish indicated on exposed surfaces of architectural precast concrete units, in sets of three, representative of finish, color, and texture variations expected; approximately 12 by 12 by 2 inches (300 by 300 by 50 mm).
1. When other faces of precast concrete unit are exposed, include Samples illustrating workmanship, color, and texture of backup concrete as well as facing concrete.
  2. Samples for each thin-brick unit required, showing full range of color and texture expected. Include Sample showing color and texture of joint treatment.
    - a. Grout Samples for Initial Selection: Color charts consisting of actual sections of grout showing manufacturer's full range of colors.
    - b. Grout Samples for Verification: Showing color and texture of joint treatment.
- E. Delegated-Design Submittal: For architectural precast concrete indicated to comply with performance requirements and design criteria, including analysis data signed and sealed by the qualified professional engineer responsible for their preparation.
1. Show governing panel types, connections, types of reinforcement, including special reinforcement, and concrete cover on reinforcement. Indicate location, type, magnitude, and direction of loads imposed on the building structural frame from architectural precast concrete.

## 1.7 INFORMATIONAL SUBMITTALS

- A. Qualification Data: For **Installer, fabricator, testing agency**.
- B. Welding certificates.
- C. Material Certificates: For the following items:
  1. Cementitious materials.
  2. Reinforcing materials and prestressing tendons.
  3. Admixtures.
  4. Bearing pads.
  5. Structural-steel shapes and hollow structural sections.
  6. Thin-brick units and accessories.

- D. Field quality-control **and special inspection** reports.

## 1.8 QUALITY ASSURANCE

- A. Installer Qualifications: A precast concrete erector who has retained a "PCI-Certified Field Auditor" to conduct a field audit of a project in same category as this Project and who can produce an Erectors' Post-Audit Declaration.
- B. Fabricator Qualifications: A firm that assumes responsibility for engineering architectural precast concrete units to comply with performance requirements. This responsibility includes preparation of Shop Drawings and comprehensive engineering analysis by a qualified professional engineer.
  - 1. Designated as a PCI-certified plant for Group A, Category A1 - Architectural Cladding and Load Bearing Units **at time of bidding or designated as an APA-certified plant for production of architectural precast concrete products.**
  - 2. Fabricator is located within 500 miles (800 km) of Project site.
- C. Testing Agency Qualifications: An independent testing agency, **acceptable to authorities having jurisdiction**, qualified according to ASTM C 1077 and ASTM E 329 for testing indicated.
- D. Quality-Control Standard: For manufacturing procedures and testing requirements, quality-control recommendations, and dimensional tolerances for types of units required, comply with PCI MNL 117, "Manual for Quality Control for Plants and Production of Architectural Precast Concrete Products."
- E. Welding Qualifications: Qualify procedures and personnel according to AWS D1.1/D.1.1M, "Structural Welding Code - Steel"; and AWS D1.4/D.1.4M, "Structural Welding Code - Reinforcing Steel."
- F. Sample Panels: After sample approval and before fabricating architectural precast concrete units, produce a minimum of **two** sample panels approximately **16 sq. ft. (1.5 sq. m)** in area for review by Architect and Owner. Incorporate full-scale details of architectural features, finishes, textures, and transitions in sample panels.
  - 1. Locate panels where indicated or, if not indicated, as directed by Architect.
  - 2. Damage part of an exposed-face surface for each finish, color, and texture, and demonstrate adequacy of repair techniques proposed for repair of surface blemishes.
  - 3. After acceptance of repair technique, maintain one sample panel at manufacturer's plant and one at Project site in an undisturbed condition as a standard for judging the completed Work.
  - 4. Demolish and remove sample panels when directed.

## 1.9 COORDINATION

- A. Furnish loose connection hardware and anchorage items to be embedded in or attached to other construction without delaying the Work. Provide locations, setting diagrams, templates, instructions, and directions, as required, for installation.



## 1.10 DELIVERY, STORAGE, AND HANDLING

- A. Deliver architectural precast concrete units in such quantities and at such times to limit unloading units temporarily on the ground or other rehandling.
- B. Support units during shipment on nonstaining shock-absorbing material.
- C. Store units with adequate dunnage and bracing and protect units to prevent contact with soil, to prevent staining, and to prevent cracking, distortion, warping or other physical damage.
- D. Place stored units so identification marks are clearly visible, and units can be inspected.
- E. Handle and transport units in a manner that avoids excessive stresses that cause cracking or damage.
- F. Lift and support units only at designated points indicated on Shop Drawings.

## PART 2 - PRODUCTS

### 2.1 PERFORMANCE REQUIREMENTS

- A. Delegated Design: Engage a qualified professional engineer, as defined in Section 014000 "Quality Requirements," to design architectural precast concrete units.
- B. Design Standards: Comply with ACI 318 (ACI 318M) and design recommendations of PCI MNL 120, "PCI Design Handbook - Precast and Prestressed Concrete," applicable to types of architectural precast concrete units indicated.
- C. Structural Performance: Provide architectural precast concrete units and connections capable of withstanding the following design loads within limits and under conditions as required by IBC 2009 edition, including dead loads, live loads, wind loads, and seismic loads and thermal movement.

### 2.2 MOLD MATERIALS

- A. Molds: Rigid, dimensionally stable, non-absorptive material, warp and buckle free, that provides continuous and true precast concrete surfaces within fabrication tolerances indicated; nonreactive with concrete and suitable for producing required finishes.
  - 1. Mold-Release Agent: Commercially produced form-release agent that does not bond with, stain or adversely affect precast concrete surfaces and does not impair subsequent surface or joint treatments of precast concrete.
- B. Form Liners: Units of face design, texture, arrangement, and configuration **to match those used for precast concrete design reference sample**. Use with manufacturer's recommended form-release agent that does not bond with, stain, or adversely affect precast concrete surfaces and does not impair subsequent surface or joint treatments of precast concrete.
- C. Surface Retarder: Chemical set retarder, capable of temporarily delaying final hardening of newly placed concrete mixture to depth of reveal specified.

## 2.3 REINFORCING MATERIALS

- A. As required by manufacturer's delegated structural engineer.

## 2.4 CONCRETE MATERIALS

- A. Regional Materials: Precast architectural concrete shall be manufactured from aggregates **and cement** that have been extracted or recovered, as well as manufactured, within 500 miles (800 km) of Project site.
- B. Portland Cement: ASTM C 150/C 150M, Type I or Type III, gray, unless otherwise indicated.
  - 1. For surfaces exposed to view in finished structure, use white cement, of same type, brand, and mill source.
- C. Supplementary Cementitious Materials:
  - 1. Submit for approval if required by manufacturer's designated structural engineer.
- D. Normal-Weight Aggregates: Except as modified by PCI MNL 117, ASTM C 33/C 33M, with coarse aggregates complying with Class 5S. Stockpile fine and coarse aggregates for each type of exposed finish from a single source (pit or quarry) for Project.
  - 1. Face-Mixture-Coarse Aggregates: Selected, hard, and durable; free of material that reacts with cement or causes staining; to match selected finish sample.
    - a. Gradation: **To match design reference sample.**
  - 2. Face-Mixture-Fine Aggregates: Selected, natural or manufactured sand compatible with coarse aggregate; to match approved finish sample.
- E. Lightweight Aggregates: Except as modified by PCI MNL 117, ASTM C 330/C 330M, with absorption less than 11 percent.
- F. Coloring Admixture: ASTM C 979/C 979M, synthetic or natural mineral-oxide pigments or colored water-reducing admixtures, temperature stable, and nonfading.
- G. Water: Potable; free from deleterious material that may affect color stability, setting, or strength of concrete and complying with chemical limits of PCI MNL 117.
- H. Air-Entraining Admixture: ASTM C 260, certified by manufacturer to be compatible with other required admixtures.
- I. Chemical Admixtures: Certified by manufacturer to be compatible with other admixtures and to not contain calcium chloride, or more than 0.15 percent chloride ions or other salts by weight of admixture.
  - 1. Water-Reducing Admixtures: ASTM C 494/C 494M, Type A.
  - 2. Retarding Admixture: ASTM C 494/C 494M, Type B.
  - 3. Water-Reducing and Retarding Admixture: ASTM C 494/C 494M, Type D.
  - 4. Water-Reducing and Accelerating Admixture: ASTM C 494/C 494M, Type E.
  - 5. High-Range, Water-Reducing Admixture: ASTM C 494/C 494M, Type F.
  - 6. High-Range, Water-Reducing and Retarding Admixture: ASTM C 494/C 494M, Type G.
  - 7. Plasticizing Admixture: ASTM C 1017/C 1017M, Type I.

8. Plasticizing and Retarding Admixture: ASTM C 1017/C 1017M, Type II.
9. Corrosion Inhibiting Admixture: ASTM C 1582/C 1582M.

## 2.5 STEEL CONNECTION MATERIALS

- A. As required by manufacturer's delegated structural engineer.
- B. Shop-Primed Finish: Prepare surfaces of nongalvanized steel items, except those surfaces to be embedded in concrete, according to requirements in SSPC-SP 3 and shop-apply [**lead- and chromate-free, rust-inhibitive primer, complying with performance requirements in MPI 79**] [**SSPC-Paint 25**] according to SSPC-PA 1.
- C. Welding Electrodes: Comply with AWS standards.

## 2.6 BEARING PADS

- A. Provide one of the following bearing pads for architectural precast concrete units **as recommended by precast fabricator for application.**

## 2.7 ACCESSORIES

- A. Precast Accessories: Provide clips, hangers, high-density plastic or steel shims, and other accessories required to install architectural precast concrete units.

## 2.8 GROUT MATERIALS

- A. Sand-Cement Grout: Portland cement, ASTM C 150/C 150M, Type I, and clean, natural sand, ASTM C 144 or ASTM C 404. Mix at ratio of 1 part cement to 2-1/2 to 3 parts sand, by volume, with minimum water required for placement and hydration. Water-soluble chloride ion content less than 0.06 percent by weight of cement when tested according to ASTM C 1218/C 1218M.
- B. Nonmetallic, Nonshrink Grout: Packaged, nonmetallic, noncorrosive, nonstaining grout containing selected silica sands, portland cement, shrinkage-compensating agents, plasticizing and water-reducing agents, complying with ASTM C 1107/C 1107M, Grade A for drypack and Grades B and C for flowable grout and of consistency suitable for application within a 30-minute working time. Water-soluble chloride ion content less than 0.06 percent by weight of cement when tested according to ASTM C 1218/C 1218M.
- C. Epoxy-Resin Grout: Two-component, mineral-filled epoxy resin; ASTM C 881/C 881M, of type, grade, and class to suit requirements.

## 2.9 THIN BRICK OR HALF-BRICK UNITS AND ACCESSORIES

- A. Products: Subject to compliance with requirements, **available products that may be incorporated into the Work include, but are not limited to, the following:**
  1. Thin brick or Klad-Brick to closely match finish on nearby structures.
- B. Thin Brick: Not less than 1/2 inch (13 mm) or more than 1 inch (25 mm) thick, and as follows:

1. Dimensional Tolerances: FBX.
  2. Modulus of Rupture: Not less than 250 psi (1.7 MPa) when tested according to ASTM C 67.
  3. Tensile Bond Strength: Not less than 150 psi (1.0 MPa) when tested before and after freeze-thaw test according to ASTM E 488 as modified: Adhere a steel plate with a welded rod on a single thin-brick face with epoxy for each test.
  4. 24-Hour Cold-Water Absorption: Not more than 6 percent when tested according to ASTM C 67.
  5. Freeze-Thaw Resistance: No detectable disintegration or separation after 300 freezing-and-thawing cycles when tested according to ASTM C 666/C 666M, Method B.
  6. Chemical Resistance: Tested according to ASTM C 650 and rated "not affected."
  7. Efflorescence: Tested according to ASTM C 67 and rated "not effloresced."
  8. Surface Coating: Thin brick with colors or textures applied as coatings shall withstand 50 cycles of freezing and thawing; ASTM C 67 with no observable difference in applied finish when viewed from 10 feet (3 m).
  9. Back Surface Texture: Scored, combed, wire roughened, ribbed, keybacked, or dovetailed.
- C. Half-Brick: Not less than 1 inch nor more than 1 ¼ inches thick .
- C. Special Shapes: Include corners, edge corners, and end edge corners.
- D. Face Size: **2-1/4 inches (57 mm) high by 7-5/8 inches (194 mm) long** .
- E. **Where indicated to "match existing,"** provide thin brick matching color, texture, and face size of existing nearby buildings' brick work.
1. Existing nearby brick is sand faced, red body, with charcoal/brown coloration, mottled.
- F. Face Color and Texture: **Match color, texture, and face size of nearby Convocation Center and Dormitory existing brick.**
- G. Sand-Cement Mortar: Portland cement, ASTM C 150/C 150M, Type I, and clean, natural sand, ASTM C 144. Mix at ratio of 1 part cement to 4 parts sand, by volume, with minimum water required for placement.
- H. Pointing Grout: Packaged, polymer-modified, sanded grout complying with ANSI A118.7.
1. Manufacturers: Subject to compliance with requirements, **available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:**
    - a. Bostik, Inc.
    - b. Custom Building Products.
    - c. DAP Products Inc.
    - d. Laticrete International, Inc.
    - e. MAPEI Corporation.
  2. Polymer Type: Acrylic resin in **dry, redispersible form, packaged with other dry ingredients.**
  3. Colors: **As selected by Architect from manufacturer's full range.**

## 2.10 CONCRETE MIXTURES

- A. Prepare design mixtures for each type of precast concrete required.
  - 1. Use a single design mixture for units with more than one major face or edge exposed.
  - 2. Where only one face of unit is exposed use either a single design mixture or separate mixtures for face and backup.
- B. Limit use of fly ash and ground granulated blast-furnace slag to 20 percent of portland cement by weight; limit metakaolin and silica fume to 10 percent of portland cement by weight.
- C. Design mixtures may be prepared by a qualified independent testing agency or by qualified precast plant personnel at architectural precast concrete fabricator's option.
- D. Limit water-soluble chloride ions to maximum percentage by weight of cement permitted by ACI 318 (ACI 318M) or PCI MNL 117 when tested according to ASTM C 1218/C 1218M.
- E. Normal-Weight Concrete Mixtures: Proportion **face and backup mixtures or full-depth mixtures, at fabricator's option** by either laboratory trial batch or field test data methods according to ACI 211.1, with materials to be used on Project, to provide normal-weight concrete with the following properties:
  - 1. Compressive Strength (28 Days): 5000 psi (34.5 MPa) minimum.
  - 2. Maximum Water-Cementitious Materials Ratio: 0.45.
- F. Water Absorption: 6 percent by weight or 14 percent by volume, tested according to ASTM C 642, except for boiling requirement.
- G. Lightweight Concrete Backup Mixtures: Proportion mixtures by either laboratory trial batch or field test data methods according to ACI 211.2, with materials to be used on Project, to provide lightweight concrete with the following properties:
  - 1. Compressive Strength (28 Days): 5000 psi (34.5 MPa).
  - 2. Unit Weight: Calculated equilibrium unit weight of 115 lb/cu. ft. (1842 kg/cu. m), plus or minus 3 lb/cu. ft. (48 kg/cu. m), according to ASTM C 567.
- H. Add air-entraining admixture at manufacturer's prescribed rate to result in concrete at point of placement having an air content complying with PCI MNL 117.
- I. When included in design mixtures, add other admixtures to concrete mixtures according to manufacturer's written instructions.

## 2.11 MOLD FABRICATION

- A. Molds: Accurately construct molds, mortar tight, of sufficient strength to withstand pressures due to concrete-placement operations and temperature changes and for prestressing and detensioning operations. Coat contact surfaces of molds with release agent before reinforcement is placed. Avoid contamination of reinforcement and prestressing tendons by release agent.
- B. Maintain molds to provide completed architectural precast concrete units of shapes, lines, and dimensions indicated, within fabrication tolerances specified.
  - 1. Form joints are not permitted on faces exposed to view in the finished work.

2. Edge and Corner Treatment: **radiused**.

2.12 THIN-BRICK FACINGS

- A. Place form liner templates accurately to provide grid for thin-brick facings. Provide solid backing and supports to maintain stability of liners while placing thin bricks and during concrete placement.
- B. Securely place thin-brick units face down into form liner pockets and place concrete backing mixture.
- C. Completely fill joint cavities between thin-brick units with sand-cement mortar, and place precast concrete backing mixture while sand-cement mortar is still fluid enough to ensure bond.
- D. Mix and install pointing grout according to ANSI A108.10. Completely fill joint cavities between thin-brick units with pointing grout, and compress into place without spreading grout onto faces of thin-brick units. Remove excess grout immediately to prevent staining of thin brick.
  - 1. Tool joints to a **slightly concave** shape when pointing grout is thumbprint hard.
- E. Clean faces and joints of thin-brick facing.

2.13 FABRICATION

- A. Cast-in Anchors, Inserts, Plates, Angles, and Other Anchorage Hardware: Fabricate anchorage hardware with sufficient anchorage and embedment to comply with design requirements. Accurately position for attachment of loose hardware, and secure in place during precasting operations. Locate anchorage hardware where it does not affect position of main reinforcement or concrete placement.
  - 1. Weld-headed studs and deformed bar anchors used for anchorage according to AWS D1.1/D1.1M and AWS C5.4, "Recommended Practices for Stud Welding."
- B. Furnish loose hardware items including steel plates, clip angles, seat angles, anchors, dowels, cramps, hangers, and other hardware shapes for securing architectural precast concrete units to supporting and adjacent construction.
- C. Cast-in reglets, slots, holes, and other accessories in architectural precast concrete units as indicated on the Contract Drawings.
- D. Cast-in openings larger than 10 inches (250 mm) in any dimension. Do not drill or cut openings or prestressing strand without Architect's approval.
- E. Reinforcement: Comply with recommendations in PCI MNL 117 for fabricating, placing, and supporting reinforcement.
- F. Reinforce architectural precast concrete units to resist handling, transportation, and erection stresses and specified in-place loads.
- G. Prestress tendons for architectural precast concrete units by either pretensioning or post-tensioning methods. Comply with PCI MNL 117.

- H. Comply with requirements in PCI MNL 117 and requirements in this Section for measuring, mixing, transporting, and placing concrete. After concrete batching, no additional water may be added.
- I. Place face mixture to a minimum thickness after consolidation of the greater of 1 inch (25 mm) or 1.5 times the maximum aggregate size, but not less than the minimum reinforcing cover specified.
- J. Place concrete in a continuous operation to prevent cold joints or planes of weakness from forming in precast concrete units.
- K. Thoroughly consolidate placed concrete by internal and external vibration without dislocating or damaging reinforcement and built-in items, and minimize pour lines, honeycombing, or entrapped air voids on surfaces. Use equipment and procedures complying with PCI MNL 117.
- L. Comply with PCI MNL 117 for hot- and cold-weather concrete placement.
- M. Identify pickup points of architectural precast concrete units and orientation in structure with permanent markings, complying with markings indicated on Shop Drawings. Imprint or permanently mark casting date on each architectural precast concrete unit on a surface that does not show in finished structure.
- N. Cure concrete, according to requirements in PCI MNL 117, by moisture retention without heat or by accelerated heat curing using low-pressure live steam or radiant heat and moisture. Cure units until compressive strength is high enough to ensure that stripping does not have an effect on performance or appearance of final product.
- O. Discard and replace architectural precast concrete units that do not comply with requirements, including structural, manufacturing tolerance, and appearance, unless repairs meet requirements in PCI MNL 117 and Architect's approval.

## 2.14 FABRICATION TOLERANCES

- A. Fabricate architectural precast concrete units to shapes, lines, and dimensions indicated so each finished unit complies with PCI MNL 117 product tolerances as well as position tolerances for cast-in items.
- B. Fabricate architectural precast concrete units to shapes, lines, and dimensions indicated so each finished unit complies with the following product tolerances:
  - 1. Overall Height and Width of Units, Measured at the Face Exposed to View: As follows:
    - a. 10 feet (3 m) or under, plus or minus 1/8 inch (3 mm).
    - b. 10 to 20 feet (3 to 6 m), plus 1/8 inch (3 mm), minus 3/16 inch (5 mm).
    - c. 20 to 40 feet (6 to 12 m), plus or minus 1/4 inch (6 mm).
    - d. Each additional 10 feet (3 m), plus or minus 1/16 inch (1.5 mm).
  - 2. Overall Height and Width of Units, Measured at the Face Not Exposed to View: As follows:
    - a. 10 feet (3 m) or under, plus or minus 1/4 inch (6 mm).
    - b. 10 to 20 feet (3 to 6 m), plus 1/4 inch (6 mm), minus 3/8 inch (10 mm).
    - c. 20 to 40 feet (6 to 12 m), plus or minus 3/8 inch (10 mm).
    - d. Each additional 10 feet (3 m), plus or minus 1/8 inch (3 mm).

3. Total Thickness or Flange Thickness: Plus 1/4 inch (6 mm), minus 1/8 inch (3 mm).
  4. Variation from Square or Designated Skew (Difference in Length of the Two Diagonal Measurements): Plus or minus 1/8 inch/72 inches (3 mm/1830 mm) or 1/2 inch (13 mm) total, whichever is greater.
  5. Length and Width of Block-outs and Openings within One Unit: Plus or minus 1/4 inch (6 mm).
  6. Location and Dimension of Block-outs Hidden from View and Used for HVAC and Utility Penetrations: Plus or minus 3/4 inch (19 mm).
  7. Dimensions of Haunches: Plus or minus 1/4 inch (6 mm).
  8. Haunch Bearing Surface Deviation from Specified Plane: Plus or minus 1/8 inch (3 mm).
  9. Difference in Relative Position of Adjacent Haunch Bearing Surfaces from Specified Relative Position: Plus or minus 1/4 inch (6 mm).
  10. Bowing: Plus or minus L/360, maximum 1 inch (25 mm).
  11. Local Smoothness: 1/4 inch/10 feet (6 mm/3 m).
  12. Warping: 1/16 inch/12 inches (1.5 mm/300 mm) of distance from nearest adjacent corner.
  13. Tipping and Flushness of Plates: Plus or minus 1/4 inch (6 mm).
  14. Dimensions of Architectural Features and Rustications: Plus or minus 1/8 inch (3 mm).
- C. Position Tolerances: For cast-in items measured from datum line location, as indicated on Shop Drawings.
1. Weld Plates: Plus or minus 1 inch (25 mm).
  2. Inserts: Plus or minus 1/2 inch (13 mm).
  3. Handling Devices: Plus or minus 3 inches (75 mm).
  4. Reinforcing Steel and Welded Wire Reinforcement: Plus or minus 1/4 inch (6 mm) where position has structural implications or affects concrete cover; otherwise, plus or minus 1/2 inch (13 mm).
  5. Reinforcing Steel Extending out of Member: Plus or minus 1/2 inch (13 mm) of plan dimensions.
  6. Tendons: Plus or minus 1/4 inch (6 mm), vertical; plus or minus 1 inch (25 mm), horizontal.
  7. Location of Rustication Joints: Plus or minus 1/8 inch (3 mm).
  8. Location of Opening within Panel: Plus or minus 1/4 inch (6 mm).
  9. Location of Flashing Reglets: Plus or minus 1/4 inch (6 mm).
  10. Location of Flashing Reglets at Edge of Panel: Plus or minus 1/8 inch (3 mm).
  11. Electrical Outlets, Hose Bibs: Plus or minus 1/2 inch (13 mm).
  12. Location of Bearing Surface from End of Member: Plus or minus 1/4 inch (6 mm).
  13. Allowable Rotation of Plate, Channel Inserts, and Electrical Boxes: 2-degree rotation or 1/4 inch (6 mm) maximum over the full dimension of unit.
  14. Position of Sleeve: Plus or minus 1/2 inch (13 mm).
- D. Thin-Brick-Faced Architectural Precast Concrete Units: Restrict the following misalignments to 2 percent of number of thin bricks in a unit.
1. Alignment of Mortar Joints:
    - a. Jog in Alignment: 1/8 inch (3 mm).
    - b. Alignment with Panel Centerline: Plus or minus 1/8 inch (3 mm).
  2. Variation in Width of Exposed Mortar Joints: Plus or minus 1/8 inch (3 mm).
  3. Tipping of Individual Thin Bricks from the Panel Plane of Exposed Thin-Brick Surface: Plus 0 inch (0 mm); minus 1/4 inch (6 mm) less than or equal to depth of form liner joint.
  4. Exposed Thin-Brick Surface Parallel to Primary Control Surface of Panel: Plus 1/4 inch (6 mm); minus 1/8 inch (3 mm).



5. Individual Thin-Brick Step in Face from Panel Plane of Exposed Thin-Brick Surface: Plus 0 inch (0 mm); minus 1/4 inch (6 mm) less than or equal to depth of form liner joint.

## 2.15 FINISHES

- A. Exposed faces shall be free of joint marks, grain, and other obvious defects. Corners, including false joints shall be uniform, straight, and sharp. Finish exposed-face surfaces of architectural precast concrete units to match approved **sample panels** and as follows:
  1. PCI's "Architectural Precast Concrete - Color and Texture Selection Guide," of plate numbers indicated. Plate 134, approximate guide.
  2. As-Cast Surface Finish: Provide surfaces to match approved sample for acceptable surface, air voids, sand streaks, and honeycomb.
  3. Abrasive-Blast Finish: Use abrasive grit, equipment, application techniques, and cleaning procedures to expose aggregate and surrounding matrix surfaces.
  4. Thin-Brick Facing: See "Thin-Brick Facings" Article.
- B. Finish exposed **top and back** surfaces of architectural precast concrete units with smooth, steel-trowel finish.
- C. Finish unexposed surfaces of architectural precast concrete units with as cast finish.

## 2.16 SOURCE QUALITY CONTROL

- A. Quality-Control Testing: Test and inspect precast concrete according to PCI MNL 117 requirements. If using self-consolidating concrete, also test and inspect according to PCI TR-6, ASTM C 1610/C 1610M, ASTM C 1611/C 1611M, ASTM C 1621/C 1621M, and ASTM C 1712.
- B. Strength of precast concrete units is considered deficient if units fail to comply with ACI 318 (ACI 318M) requirements for concrete strength.
- C. Testing: If there is evidence that strength of precast concrete units may be deficient or may not comply with ACI 318 (ACI 318M) requirements, precaster will employ an independent testing agency to obtain, prepare, and test cores drilled from hardened concrete to determine compressive strength according to ASTM C 42/C 42M and ACI 318 (ACI 318M).
- D. Patching: If core test results are satisfactory and precast concrete units comply with requirements, clean and dampen core holes and solidly fill with precast concrete mixture that has no coarse aggregate, and finish to match adjacent precast concrete surfaces.
- E. Defective Units: Discard and replace recast architectural concrete units that do not comply with acceptability requirements in PCI MNL 117, including concrete strength, manufacturing tolerances, and color and texture range. Chipped, spalled, or cracked units may be repaired, subject to Architect's approval. Architect reserves the right to reject precast units that do not match approved samples, sample panels, and mockups. Replace unacceptable units with precast concrete units that comply with requirements.

## PART 3 - EXECUTION

### 3.1 EXAMINATION

- A. Examine supporting foundation and conditions for compliance with requirements for installation tolerances, bearing surface tolerances, and other conditions affecting performance of the Work.
- B. Do not install precast concrete units until supporting cast-in-place concrete has attained minimum allowable design compressive strength and supporting steel or other structure is structurally ready to receive loads from precast concrete units.
- C. Proceed with installation only after unsatisfactory conditions have been corrected.

### 3.2 INSTALLATION

- A. Install clips, hangers, bearing pads, and other accessories required for connecting architectural precast concrete units to supporting members and backup materials.
- B. Erect architectural precast concrete level, plumb, and square within specified allowable tolerances. Provide temporary supports and bracing as required to maintain position, stability, and alignment of units until permanent connections are completed.
  - 1. Install temporary steel or plastic spacing shims as precast concrete units are being erected. Tack weld steel shims to each other to prevent shims from separating.
  - 2. Maintain horizontal and vertical joint alignment and uniform joint width as erection progresses.
  - 3. Remove projecting lifting devices and grout fill voids within recessed lifting devices flush with surface of adjacent precast surfaces when recess is exposed.
  - 4. Unless otherwise indicated, maintain uniform joint widths of 3/4 inch (19 mm).
- C. Connect architectural precast concrete units in position by bolting, welding, grouting, or as otherwise indicated on Shop Drawings. Remove temporary shims, wedges, and spacers as soon as practical after connecting and grouting are completed.
  - 1. Do not permit connections to disrupt continuity of roof flashing.
- D. Welding: Comply with applicable requirements in AWS D1.1/D1.1M and AWS D1.4/D1.4M for welding, welding electrodes, appearance, quality of welds, and methods used in correcting welding work.
  - 1. Protect architectural precast concrete units and bearing pads from damage by field welding or cutting operations, and provide noncombustible shields as required.
  - 2. Welds not specified shall be continuous fillet welds, using no less than the minimum fillet as specified by AWS.
  - 3. Clean weld-affected metal surfaces with chipping hammer followed by brushing, and apply a minimum 4.0-mil- (0.1-mm-) thick coat of galvanized repair paint to galvanized surfaces according to ASTM A 780/A 780M.
  - 4. Clean weld-affected metal surfaces with chipping hammer followed by brushing, and reprime damaged painted surfaces.
  - 5. Visually inspect welds and remove, reweld, or repair incomplete and defective welds.
- E. At bolted connections, use lock washers, tack welding, or other approved means to prevent loosening of nuts after final adjustment.

1. Where slotted connections are used, verify bolt position and tightness. For sliding connections, properly secure bolt but allow bolt to move within connection slot.
  2. For slip-critical connections, use one of the following methods to assure proper bolt pretension:
    - a. Turn-of-Nut: According to RCSC's "Specification for Structural Joints Using ASTM A 325 or A 490 Bolts."
    - b. Calibrated Wrench: According to RCSC's "Specification for Structural Joints Using ASTM A 325 or A 490 Bolts."
    - c. Twist-off Tension Control Bolt: ASTM F 1852.
    - d. Direct-Tension Control Bolt: ASTM F 1852.
  3. For slip-critical connections, use method and inspection procedure approved by Architect and coordinated with inspection agency.
- F. Grouting or Dry-Packing Connections and Joints: Grout connections where required or indicated. Retain flowable grout in place until hard enough to support itself. Alternatively, pack spaces with stiff dry-pack grout material, tamping until voids are completely filled. Place grout and finish smooth, level, and plumb with adjacent concrete surfaces. Promptly remove grout material from exposed surfaces before it affects finishes or hardens. Keep grouted joints damp for not less than 24 hours after initial set.

### 3.3 ERECTION TOLERANCES

- A. Erect architectural precast concrete units level, plumb, square, and in alignment without exceeding the noncumulative erection tolerances of PCI MNL 117, Appendix I.

### 3.4 FIELD QUALITY CONTROL

- A. Special Inspections: **Owner will engage** a qualified special inspector to perform the following special inspections and prepare reports:
  1. Erection of loadbearing precast concrete members.
- B. Visually inspect field welds and test according to ASTM E 165 or to ASTM E 709 and ASTM E 1444. High-strength bolted connections are subject to inspections.
- C. Testing agency will report test results promptly and in writing to Contractor and Architect.
- D. Repair or remove and replace work where tests and inspections indicate that it does not comply with specified requirements.
- E. Additional testing and inspecting, at Contractor's expense, shall be performed to determine compliance of replaced or additional work with specified requirements.

### 3.5 REPAIRS

- A. Repair architectural precast concrete units if permitted by Architect. Architect reserves the right to reject repaired units that do not comply with requirements.
- B. Mix patching materials and repair units so cured patches blend with color, texture, and uniformity of adjacent exposed surfaces and show no apparent line of demarcation between

original and repaired work, when viewed in typical daylight illumination from a distance of 20 feet (6 m).

- C. Prepare and repair damaged galvanized coatings with galvanizing repair paint according to ASTM A 780/A 780M.
- D. Wire brush, clean, and paint damaged prime-painted components with same type of shop primer.
- E. Remove and replace damaged architectural precast concrete units when repairs do not comply with requirements.

### 3.6 CLEANING

- A. Clean surfaces of precast concrete units exposed to view.
- B. Clean mortar and other deleterious material from concrete surfaces and adjacent materials immediately.
- C. Clean exposed surfaces of precast concrete units after erection and completion of joint treatment to remove weld marks, other markings, dirt, and stains.
  - 1. Perform cleaning procedures, if necessary, according to precast concrete fabricator's recommendations. Protect other work from staining or damage due to cleaning operations.
  - 2. Do not use cleaning materials or processes that could change the appearance of exposed concrete finishes or damage adjacent materials.

END OF SECTION 034500

## SECTION 042113 - BRICK MASONRY

### PART 1 - GENERAL

#### 1.1 SUMMARY

- A. Section Includes:
  - 1. Face brick to match thin brick on pre-cast concrete units.

#### 1.2 ACTION SUBMITTALS

- A. Product Data: For each type of product indicated.
- B. Samples: For each type and color of **brick and colored mortar – match thin brick on precast concrete panels.**

#### 1.3 QUALITY ASSURANCE

- A. Masonry Standard: Comply with ACI 530.1/ASCE 6/TMS 602 unless modified by requirements in the Contract Documents.
- B. Sample Panels: Build sample panels to verify selections made under sample submittals and to demonstrate aesthetic effects. Comply with requirements in Section 014000 "Quality Requirements" for mockups.

#### 1.4 PROJECT CONDITIONS

- A. Cold-Weather Requirements: Do not use frozen materials or materials mixed or coated with ice or frost. Do not build on frozen substrates. Remove and replace unit masonry damaged by frost or by freezing conditions. Comply with cold-weather construction requirements contained in ACI 530.1/ASCE 6/TMS 602.
- B. Hot-Weather Requirements: Comply with hot-weather construction requirements contained in ACI 530.1/ASCE 6/TMS 602.

### PART 2 - PRODUCTS

#### 2.1 MASONRY UNITS, GENERAL

- A. Defective Units: Referenced masonry unit standards may allow a certain percentage of units to contain chips, cracks, or other defects exceeding limits stated in the standard. Do not use units where such defects will be exposed in the completed Work.

#### 2.2 BRICK

- A. General: Provide shapes indicated and as follows.

1. For ends of sills and caps and for similar applications that would otherwise expose unfinished brick surfaces, provide units without cores or frogs and with exposed surfaces finished.
  2. Provide special shapes for applications where shapes produced by sawing would result in sawed surfaces being exposed to view.
- B. Face Brick: Facing brick complying with ASTM C 216.
1. Products: Subject to compliance with requirements, **available products that may be incorporated into the Work include, but are not limited to, the following:**
    - a. Thin brick specified in 034500 and face brick shall match in visual appearance.
  2. Grade: **SW**.
  3. Type: **FBX**.
  4. Initial Rate of Absorption: Less than 30 g/30 sq. in. (30 g/194 sq. cm) per minute when tested per ASTM C 67.
  5. Efflorescence: Provide brick that has been tested according to ASTM C 67 and is rated "not effloresced."
  6. Surface Coating: Brick with colors or textures produced by application of coatings shall withstand 50 cycles of freezing and thawing per ASTM C 67 with no observable difference in the applied finish when viewed from 10 feet (3 m).
  7. Size (Actual Dimensions): **3-5/8 inches (92 mm) wide by 2-1/4 inches (57 mm) high by 7-5/8 inches (194 mm) long.**

### 2.3 MORTAR MATERIALS

- A. Portland Cement: ASTM C 150, Type I or II, except Type III may be used for cold-weather construction. Provide natural color or white cement as required to produce mortar color indicated.
- B. Hydrated Lime: ASTM C 207, Type S.
- C. Portland Cement-Lime Mix: Packaged blend of portland cement and hydrated lime containing no other ingredients.
- D. Masonry Cement: ASTM C 91.
  1. Products: Subject to compliance with requirements, **available products that may be incorporated into the Work include, but are not limited to, the following:**
    - a. Capital Materials Corporation; Flamingo Color Masonry Cement.
    - b. Holcim (US) Inc.; **Mortamix Masonry Cement**.
    - c. Lafarge North America Inc.; **Lafarge Masonry Cement**].
- E. Aggregate for Mortar: ASTM C 144.
  1. White-Mortar Aggregates: Natural white sand or crushed white stone.
  2. Colored-Mortar Aggregates: Natural sand or crushed stone of color necessary to produce required mortar color.
- F. Cold-Weather Admixture: Nonchloride, noncorrosive, accelerating admixture complying with ASTM C 494/C 494M, Type C, and recommended by manufacturer for use in masonry mortar of composition indicated.

## 2.4 REINFORCEMENT

- A. Masonry Joint Reinforcement, General: ASTM A 951/A 951M.
- B. Masonry Joint Reinforcement for Veneers Anchored with Seismic Masonry-Veneer Anchors: Single 0.187-inch- (4.76-mm-) diameter, hot-dip galvanized, carbon-steel continuous wire.

## 2.5 TIES AND ANCHORS

- A. Materials: Provide ties and anchors specified in this article that are made from materials that comply with the following unless otherwise indicated:
  - 1. Hot-Dip Galvanized, Carbon-Steel Wire: ASTM A 82/A 82M; with ASTM A 153/A 153M, Class B-2 coating.
  - 2. Steel Sheet, Galvanized after Fabrication: ASTM A 1008/A 1008M, Commercial Steel, with ASTM A 153/A 153M, Class B coating.
- B. Wire Ties, General: Unless otherwise indicated, size wire ties to extend at least halfway through veneer but with at least 5/8-inch (16-mm) cover on outside face. Outer ends of wires are bent 90 degrees and extend 2 inches (50 mm) parallel to face of veneer.
- C. Adjustable Anchors for Connecting to Concrete: Provide anchors that allow vertical or horizontal adjustment but resist tension and compression forces perpendicular to plane of wall.
  - 1. Connector Section: Dovetail tabs for inserting into dovetail slots in concrete and attached to tie section; formed from **0.060-inch- (1.52-mm-) thick, steel sheet, galvanized after fabrication.**
  - 2. Tie Section: Triangular-shaped wire tie, sized to extend within 1 inch (25 mm) of masonry face, made from **0.187-inch- (4.76-mm-) diameter, hot-dip galvanized steel wire.**
  - 3. Corrugated Metal Ties: Metal strips not less than 7/8 inch (22 mm) wide with corrugations having a wavelength of 0.3 to 0.5 inch (7.6 to 12.7 mm) and an amplitude of 0.06 to 0.10 inch (1.5 to 2.5 mm) made from **0.060-inch- (1.52- mm-) thick, steel sheet, galvanized after fabrication** with dovetail tabs for inserting into dovetail slots in concrete and sized to extend to within 1 inch (25 mm) of masonry face.

## 2.6 EMBEDDED FLASHING MATERIALS

- A. Metal Flashing: Provide metal flashing complying with **SMACNA's "Architectural Sheet Metal Manual"** and as follows:
  - 1. Metal Sealant Stop: Fabricate from stainless steel. Extend at least 3 inches (76 mm) into wall and out to exterior face of wall. At exterior face of wall, bend metal back on itself for 3/4 inch (19 mm) and down into joint 1/4 inch (6 mm) to form a stop for retaining sealant backer rod.
- B. Flexible Flashing: Use the following unless otherwise indicated:
  - 1. EPDM Flashing: Sheet flashing product made from ethylene-propylene-diene terpolymer, complying with ASTM D 4637, 0.040 inch (1.0 mm) thick.
    - a. Products: Subject to compliance with requirements, **available products that may be incorporated into the Work include, but are not limited to, the following:**

- 1) Carlisle Coatings & Waterproofing; Pre-Kleened EPDM Thru-Wall Flashing.
- 2) Firestone Specialty Products; FlashGuard.
- 3) Heckmann Building Products Inc.; No. 81 EPDM Thru-Wall Flashing.
- 4) Hohmann & Barnard, Inc.; Epra-Max EPDM Thru-Wall Flashing.
- 5) Sandell Manufacturing Co., Inc.; EPDM Flashing.

- C. Adhesives, Primers, and Seam Tapes for Flashings: Flashing manufacturer's standard products or products recommended by flashing manufacturer for bonding flashing sheets to each other and to substrates.

## 2.7 MISCELLANEOUS MASONRY ACCESSORIES

- A. Compressible Filler: Premolded filler strips complying with ASTM D 1056, Grade 2A1; compressible up to 35 percent; formulated from **neoprene**.
- B. Bond-Breaker Strips: Asphalt-saturated, organic roofing felt complying with ASTM D 226, Type I (No. 15 asphalt felt).
- C. Weep/Vent Products: Use **one of** the following unless otherwise indicated:
1. Cellular Plastic Weep/Vent: One-piece, flexible extrusion made from UV-resistant polypropylene copolymer, full height and width of head joint and depth 1/8 inch (3 mm) less than depth of outer wythe, in color selected from manufacturer's standard.
  2. Mesh Weep/Vent: Free-draining mesh; made from polyethylene strands, full height and width of head joint and depth 1/8 inch (3 mm) less than depth of outer wythe; in color selected from manufacturer's standard.
  3. Vinyl Weep Hole/Vent: One-piece, offset, T-shaped units made from flexible PVC, designed to fit into a head joint and consisting of a louvered vertical leg, flexible wings to seal against ends of masonry units, and a top flap to keep mortar out of the head joint; in color selected by Architect.

## 2.8 MASONRY CLEANERS

- A. Proprietary Acidic Cleaner: Manufacturer's standard-strength cleaner designed for removing mortar/grout stains, efflorescence, and other new construction stains from new masonry without discoloring or damaging masonry surfaces. Use product expressly approved for intended use by cleaner manufacturer and manufacturer of masonry units being cleaned.

## 2.9 MORTAR MIXES

- A. General: Do not use admixtures, including pigments, air-entraining agents, accelerators, retarders, water-repellent agents, antifreeze compounds, or other admixtures unless otherwise indicated.
1. Do not use calcium chloride in mortar.
  2. Use masonry cement or mortar cement mortar unless otherwise indicated.
  3. Add cold-weather admixture (if used) at same rate for all mortar that will be exposed to view, regardless of weather conditions, to ensure that mortar color is consistent.



- B. Preblended, Dry Mortar Mix: Furnish dry mortar ingredients in form of a preblended mix. Measure quantities by weight to ensure accurate proportions, and thoroughly blend ingredients before delivering to Project site.
- C. Mortar for Unit Masonry: Comply with ASTM C 270, Proportion Specification. Provide Type N unless another type is indicated.
- D. Colored-Aggregate Mortar: Produce required mortar color by using colored aggregates and natural color or white cement as necessary to produce required mortar color.
  - 1. Mix to match Architect's sample.
  - 2. Application: Use colored aggregate mortar for exposed mortar joints.

## PART 3 - EXECUTION

### 3.1 INSTALLATION, GENERAL

- A. Use full-size units without cutting if possible. If cutting is required to provide a continuous pattern or to fit adjoining construction, cut units with motor-driven saws; provide clean, sharp, unchipped edges. Allow units to dry before laying unless wetting of units is specified. Install cut units with cut surfaces and, where possible, cut edges concealed.
- B. Select and arrange units for exposed unit masonry to produce a uniform blend of colors and textures.
- C. Wetting of Brick: Wet brick before laying if initial rate of absorption exceeds 30 g/30 sq. in. (30 g/194 sq. cm) per minute when tested per ASTM C 67. Allow units to absorb water so they are damp but not wet at time of laying.

### 3.2 TOLERANCES

- A. Dimensions and Locations of Elements:
  - 1. For dimensions in cross section or elevation do not vary by more than plus 1/2 inch (12 mm) or minus 1/4 inch (6 mm).
  - 2. For location of elements in plan do not vary from that indicated by more than plus or minus 1/2 inch (12 mm).
  - 3. For location of elements in elevation do not vary from that indicated by more than plus or minus 1/4 inch (6 mm) in a story height or 1/2 inch (12 mm) total.
- B. Lines and Levels:
  - 1. For bed joints and top surfaces of bearing walls do not vary from level by more than 1/4 inch in 10 feet (6 mm in 3 m), or 1/2 inch (12 mm) maximum.
  - 2. For conspicuous horizontal lines, such as lintels, sills, parapets, and reveals, do not vary from level by more than 1/8 inch in 10 feet (3 mm in 3 m), 1/4 inch in 20 feet (6 mm in 6 m), or 1/2 inch (12 mm) maximum.
  - 3. For vertical lines and surfaces do not vary from plumb by more than 1/4 inch in 10 feet (6 mm in 3 m), 3/8 inch in 20 feet (9 mm in 6 m), or 1/2 inch (12 mm) maximum.
  - 4. For conspicuous vertical lines, such as external corners, door jambs, reveals, and expansion and control joints, do not vary from plumb by more than 1/8 inch in 10 feet (3 mm in 3 m), 1/4 inch in 20 feet (6 mm in 6 m), or 1/2 inch (12 mm) maximum.

5. For lines and surfaces do not vary from straight by more than 1/4 inch in 10 feet (6 mm in 3 m), 3/8 inch in 20 feet (9 mm in 6 m), or 1/2 inch (12 mm) maximum.

C. Joints:

1. For bed joints, do not vary from thickness indicated by more than plus or minus 1/8 inch (3 mm), with a maximum thickness limited to 1/2 inch (12 mm); do not vary from bed-joint thickness of adjacent courses by more than 1/8 inch (3 mm).
2. For exposed head joints, do not vary from thickness indicated by more than plus or minus 1/8 inch (3 mm). **Do not vary from adjacent bed-joint and head-joint thicknesses by more than 1/8 inch (3 mm).**

### 3.3 LAYING MASONRY WALLS

- A. Lay out walls in advance for accurate spacing of surface bond patterns with uniform joint thicknesses and for accurate location of openings, movement-type joints, returns, and offsets. Avoid using less-than-half-size units, particularly at corners, jambs, and, where possible, at other locations.
- B. Bond Pattern for Exposed Masonry: Unless otherwise indicated, lay exposed masonry in running bond; do not use units with less than nominal 4-inch (100-mm) horizontal face dimensions at corners or jambs.
- C. Built-in Work: As construction progresses, build in items specified in this and other Sections. Fill in solidly with masonry around built-in items.

### 3.4 MORTAR BEDDING AND JOINTING

- A. Lay hollow brick as follows:
  1. With face shells fully bedded in mortar and with head joints of depth equal to bed joints.
  2. With entire units, including areas under cells, fully bedded in mortar at starting course on footings.
- B. Lay solid masonry units with completely filled bed and head joints; butter ends with sufficient mortar to fill head joints and shove into place. Do not deeply furrow bed joints or slush head joints.
- C. Tool exposed joints slightly concave when thumbprint hard, using a jointer larger than joint thickness unless otherwise indicated.

### 3.5 ANCHORING MASONRY TO CONCRETE

- A. Anchor masonry to concrete where masonry abuts or faces concrete to comply with the following:
  1. Provide an open space not less than **1/2 inch (13 mm)** wide between masonry and concrete unless otherwise indicated. Keep open space free of mortar and other rigid materials.
  2. Anchor masonry with anchors embedded in masonry joints and attached to structure.
  3. Space anchors as indicated, but not more than 24 inches (610 mm) o.c. vertically and 36 inches (915 mm) o.c. horizontally.

### 3.6 ANCHORING MASONRY VENEERS

- A. Anchor masonry veneers to **concrete backup** with **seismic** masonry-veneer anchors to comply with the following requirements:
1. Fasten **seismic** anchors to **concrete backup** with metal fasteners of type indicated. Use two fasteners unless anchor design only uses one fastener.
  2. Embed **connector sections and continuous wire** in masonry joints.
  3. Locate anchor sections to allow maximum vertical differential movement of ties up and down.
  4. Space anchors not more than 16 inches (406 mm) o.c. vertically and **24 inches (610 mm)** o.c. horizontally with not less than 1 anchor for each **2.67 sq. ft. (0.25 sq. m)** of wall area. Install additional anchors at intervals, not exceeding 36 inches (914 mm), around perimeter.

### 3.7 FLASHING, WEEP HOLES, CAVITY DRAINAGE, AND VENTS

- A. General: Install embedded flashing and weep holes in masonry at shelf angles, lintels, ledges, other obstructions to downward flow of water in wall, and where indicated. **Install vents at shelf angles, ledges, and other obstructions to upward flow of air in cavities, and where indicated.**
- B. Install flashing as follows unless otherwise indicated:
1. Prepare masonry surfaces so they are smooth and free from projections that could puncture flashing. Where flashing is within mortar joint, place through-wall flashing on sloping bed of mortar and cover with mortar. Before covering with mortar, seal penetrations in flashing with adhesive, sealant, or tape as recommended by flashing manufacturer.
- C. Install weep holes in head joints in exterior wythes of first course of masonry immediately above embedded flashing and as follows:
1. Use **specified weep/vent products** to form weep holes.
  2. Space weep holes 24 inches (600 mm) o.c. unless otherwise indicated.
- D. Place cavity drainage material in cavities to comply with configuration requirements for cavity drainage material in "Miscellaneous Masonry Accessories" Article.
- E. Install vents in head joints in exterior wythes at spacing indicated. Use **specified weep/vent products** to form vents.

### 3.8 FIELD QUALITY CONTROL

- A. Testing and Inspecting: Owner will engage special inspectors to perform tests and inspections and prepare reports. Allow inspectors access to scaffolding and work areas, as needed to perform tests and inspections. Retesting of materials that fail to meet specified requirements shall be done at Contractor's expense.
- B. Inspections: Level 1 special inspections according to the "International Building Code."
1. Begin masonry construction only after inspectors have verified proportions of site-prepared mortar.

- C. Mortar Aggregate Ratio Test (Proportion Specification): For each mix provided, according to ASTM C 780.

### 3.9 CLEANING

- A. In-Progress Cleaning: Clean unit masonry as work progresses by dry brushing to remove mortar fins and smears before tooling joints.
- B. Final Cleaning: After mortar is thoroughly set and cured, clean exposed masonry as follows:
  - 1. Test cleaning methods on sample wall panel; leave one-half of panel uncleaned for comparison purposes
  - 2. Protect adjacent surfaces from contact with cleaner.
  - 3. Wet wall surfaces with water before applying cleaners; remove cleaners promptly by rinsing surfaces thoroughly with clear water.
  - 4. Clean concrete masonry by cleaning method indicated in NCMA TEK 8-2A applicable to type of stain on exposed surfaces.

### 3.10 MASONRY WASTE DISPOSAL

- A. Waste Disposal as Fill Material: Dispose of clean masonry waste, including excess or soil-contaminated sand, waste mortar, and broken masonry units, by crushing and mixing with fill material as fill is placed.
- B. Excess Masonry Waste: Remove excess clean masonry waste that cannot be used as fill, as described above, and other masonry waste, and legally dispose of off Owner's property.

END OF SECTION 042113

## SECTION 081113 - HOLLOW METAL DOORS AND FRAMES

### PART 1 - GENERAL

#### 1.1 SUMMARY

- A. Section includes hollow-metal work.

#### 1.2 DEFINITIONS

- A. **Minimum Thickness:** Minimum thickness of base metal without coatings according to NAAMM-HMMA 803 or SDI A250.8.

#### 1.3 ACTION SUBMITTALS

- A. **Product Data:** For each type of product.
- B. **Shop Drawings:** Include elevations, door edge details, frame profiles, metal thicknesses, preparations for hardware, and other details.

### PART 2 - PRODUCTS

#### 2.1 MANUFACTURERS

- A. **Manufacturers:** Subject to compliance with requirements, **available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:**
  1. Anweld International, LLC.
  2. Ceco Door Products; an Assa Abloy Group company.
  3. Commercial Door & Hardware Inc.
  4. Curries Company; an Assa Abloy Group company.
  5. Custom Metal Products.
  6. Mesker Door Inc.
  7. Republic Doors and Frames.

#### 2.2 EXTERIOR HOLLOW-METAL DOORS AND FRAMES

- A. **Heavy-Duty Doors and Frames:** SDI A250.8, Level 2. At Tower storage rooms.
  1. **Physical Performance:** Level B according to SDI A250.4.
  2. **Doors:**
    - a. **Type:** As indicated in the Door and Frame Schedule.
    - b. **Thickness:** 1-3/4 inches (44.5 mm).
    - c. **Face:** Metallic-coated steel sheet, minimum thickness of 0.042 inch (1.0 mm), with minimum A40 (ZF120) coating.

- d. Edge Construction: **Model 2, Seamless.**
- e. Core: **Manufacturer's standard insulation material.**
- 3. Frames:
  - a. Materials: Metallic-coated steel sheet, minimum thickness of 0.053 inch (1.3 mm), with minimum A40 (ZF120) coating.
  - b. Construction: **Full profile welded.**
- 4. Exposed Finish: **Prime.**

## 2.3 FRAME ANCHORS

### A. Jamb Anchors:

- 1. Masonry Type: Adjustable strap-and-stirrup or T-shaped anchors to suit frame size, not less than 0.042 inch (1.0 mm) thick, with corrugated or perforated straps not less than 2 inches (51 mm) wide by 10 inches (254 mm) long; or wire anchors not less than 0.177 inch (4.5 mm) thick.
- 2. Postinstalled Expansion Type for In-Place Concrete or Masonry: Minimum 3/8-inch- (9.5-mm-) diameter bolts with expansion shields or inserts. Provide pipe spacer from frame to wall, with throat reinforcement plate, welded to frame at each anchor location.

## 2.4 MATERIALS

- A. Recycled Content of Steel Products: Postconsumer recycled content plus one-half of preconsumer recycled content not less than **25 percent.**
- B. Cold-Rolled Steel Sheet: ASTM A 1008/A 1008M, Commercial Steel (CS), Type B; suitable for exposed applications.
- C. Hot-Rolled Steel Sheet: ASTM A 1011/A 1011M, Commercial Steel (CS), Type B; free of scale, pitting, or surface defects; pickled and oiled.
- D. Metallic-Coated Steel Sheet: ASTM A 653/A 653M, Commercial Steel (CS), Type B.
- E. Frame Anchors: ASTM A 879/A 879M, Commercial Steel (CS), 04Z (12G) coating designation; mill phosphatized.
  - 1. For anchors built into exterior walls, steel sheet complying with ASTM A 1008/A 1008M or ASTM A 1011/A 1011M, hot-dip galvanized according to ASTM A 153/A 153M, Class B.
- F. Inserts, Bolts, and Fasteners: Hot-dip galvanized according to ASTM A 153/A 153M.
- G. Power-Actuated Fasteners in Concrete: From corrosion-resistant materials.
- H. Grout: ASTM C 476, except with a maximum slump of 4 inches (102 mm), as measured according to ASTM C 143/C 143M.
- I. Mineral-Fiber Insulation: ASTM C 665, Type I (blankets without membrane facing).
- J. Bituminous Coating: Cold-applied asphalt mastic, compounded for 15-mil (0.4-mm) dry film thickness per coat.

## 2.5 FABRICATION

- A. Fabricate hollow-metal work to be rigid and free of defects, warp, or buckle. Accurately form metal to required sizes and profiles, with minimum radius for metal thickness. Where practical, fit and assemble units in manufacturer's plant. To ensure proper assembly at Project site, clearly identify work that cannot be permanently factory assembled before shipment.
- B. Hollow-Metal Doors:
  - 1. Exterior Doors: Provide weep-hole openings in bottoms of exterior doors to permit moisture to escape. Seal joints in top edges of doors against water penetration.
- C. Hollow-Metal Frames: Where frames are fabricated in sections due to shipping or handling limitations, provide alignment plates or angles at each joint, fabricated of same thickness metal as frames.
  - 1. Provide countersunk, flat- or oval-head exposed screws and bolts for exposed fasteners unless otherwise indicated.
  - 2. Grout Guards: Weld guards to frame at back of hardware mortises in frames to be grouted.
  - 3. Jamb Anchors: Provide number and spacing of anchors as follows:
    - a. Masonry Type: Locate anchors not more than 16 inches (406 mm) from top and bottom of frame. Space anchors not more than 32 inches (813 mm) o.c., to match coursing, and as follows:
      - 1) Three anchors per jamb from 60 to 90 inches (1524 to 2286 mm) high.
  - 4. Door Silencers: Except on weather-stripped frames, drill stops to receive door silencers.
    - a. Single-Door Frames: Drill stop in strike jamb to receive three door silencers.
- D. Hardware Preparation: Factory prepare hollow-metal work to receive templated mortised hardware; include cutouts, reinforcement, mortising, drilling, and tapping according to SDI A250.6, the Door Hardware Schedule, and templates.
  - 1. Reinforce doors and frames to receive nontemplated, mortised, and surface-mounted door hardware.
  - 2. Comply with applicable requirements in SDI A250.6 and BHMA A156.115 for preparation of hollow-metal work for hardware.

## 2.6 STEEL FINISHES

- A. Prime Finish: Clean, pretreat, and apply manufacturer's standard primer.
  - 1. Shop Primer: SDI A250.10.

## 2.7 ACCESSORIES

- A. Grout Guards: Formed from same material as frames, not less than 0.016 inch (0.4 mm) thick.

## PART 3 - EXECUTION

### 3.1 INSTALLATION

- A. Hollow-Metal Frames: Install hollow-metal frames of size and profile indicated. Comply with SDI A250.11 or NAAMM-HMMA 840 as required by standards specified.
1. Set frames accurately in position; plumbed, aligned, and braced securely until permanent anchors are set. After wall construction is complete, remove temporary braces, leaving surfaces smooth and undamaged.
    - a. Where frames are fabricated in sections because of shipping or handling limitations, field splice at approved locations by welding face joint continuously; grind, fill, dress, and make splice smooth, flush, and invisible on exposed faces.
    - b. Install frames with removable stops located on secure side of opening.
    - c. Install door silencers in frames before grouting.
    - d. Remove temporary braces necessary for installation only after frames have been properly set and secured.
    - e. Check plumb, square, and twist of frames as walls are constructed. Shim as necessary to comply with installation tolerances.
    - f. Field apply bituminous coating to backs of frames that will be filled with grout containing antifreezing agents.
  2. Concrete Walls: Solidly fill space between frames and concrete with mineral-fiber insulation.
  3. Installation Tolerances: Adjust hollow-metal door frames for squareness, alignment, twist, and plumb to the following tolerances:
    - a. Squareness: Plus or minus 1/16 inch (1.6 mm), measured at door rabbet on a line 90 degrees from jamb perpendicular to frame head.
    - b. Alignment: Plus or minus 1/16 inch (1.6 mm), measured at jambs on a horizontal line parallel to plane of wall.
    - c. Twist: Plus or minus 1/16 inch (1.6 mm), measured at opposite face corners of jambs on parallel lines, and perpendicular to plane of wall.
    - d. Plumbness: Plus or minus 1/16 inch (1.6 mm), measured at jambs at floor.
- B. Hollow-Metal Doors: Fit hollow-metal doors accurately in frames, within clearances specified below. Shim as necessary.
1. Non-Fire-Rated Steel Doors:
    - a. Between Door and Frame Jambs and Head: 1/8 inch (3.2 mm) plus or minus 1/32 inch (0.8 mm).
    - b. Between Edges of Pairs of Doors: 1/8 inch (3.2 mm) to 1/4 inch (6.3 mm) plus or minus 1/32 inch (0.8 mm).
    - c. At Bottom of Door: 3/4 inch (19.1 mm) plus or minus 1/32 inch (0.8 mm).
    - d. Between Door Face and Stop: 1/16 inch (1.6 mm) to 1/8 inch (3.2 mm) plus or minus 1/32 inch (0.8 mm).

### 3.2 ADJUSTING AND CLEANING

- A. Final Adjustments: Check and readjust operating hardware items immediately before final inspection. Leave work in complete and proper operating condition. Remove and replace defective work, including hollow-metal work that is warped, bowed, or otherwise unacceptable.



- B. Remove grout and other bonding material from hollow-metal work immediately after installation.
- C. Prime-Coat Touchup: Immediately after erection, sand smooth rusted or damaged areas of prime coat and apply touchup of compatible air-drying, rust-inhibitive primer.
- D. Metallic-Coated Surface Touchup: Clean abraded areas and repair with galvanizing repair paint according to manufacturer's written instructions.
- E. Touchup Painting: Cleaning and touchup painting of abraded areas of paint are specified in painting Sections.

END OF SECTION 081113

## SECTION 083113 - ACCESS DOORS AND FRAMES

### PART 1 - GENERAL

#### 1.1 SUMMARY

##### A. Section Includes:

1. Access doors and frames for ceilings.

### PART 2 - PRODUCTS

#### 2.1 ACCESS DOORS AND FRAMES FOR WALLS AND CEILINGS

##### A. Manufacturers: Subject to compliance with requirements, **available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:**

##### B. Basis-of-Design Product: Subject to compliance with requirements, provide product indicated or comparable product by one of the following:

1. Access Panel Solutions.
2. Babcock-Davis.
3. Jensen Industries: Div. of Broan-Nutone, LLC.
4. Larsen's Manufacturing Company.
5. Maxam Metal Products Limited.
6. Milcor Inc.

##### C. Source Limitations: Obtain each type of access door and frame from single source from single manufacturer.

##### D. Flush Access Doors with Exposed Flanges:

1. Assembly Description: Fabricate door to fit flush to frame. Provide manufacturer's standard-width exposed flange, proportional to door size.
2. Locations: **Ceiling.**
3. Door Size: Per electrical code requirements for access.
4. Metallic-Coated Steel Sheet for Door: **Nominal 0.064 inch (1.63 mm), 16 gage.**
  - a. Finish: **Factory prime.**
5. Frame Material: **Same material, thickness, and finish as door.**
6. Hinges: **Manufacturer's standard.**
7. Hardware: **Lock.**

##### E. Hardware:

1. Latch: **Cam latch operated by flush key.**
2. Lock: **Cylinder.**

## 2.2 MATERIALS

- A. Steel Plates, Shapes, and Bars: ASTM A 36/A 36M.
- B. Metallic-Coated Steel Sheet: ASTM A 653/A 653M, Commercial Steel (CS), Type B; with minimum G60 (Z180) or A60 (ZF180) metallic coating.
- C. Frame Anchors: Same type as door face.
- D. Inserts, Bolts, and Anchor Fasteners: Hot-dip galvanized steel according to ASTM A 153/A 153M or ASTM F 2329.

## 2.3 FABRICATION

- A. General: Provide access door and frame assemblies manufactured as integral units ready for installation.
- B. Metal Surfaces: For metal surfaces exposed to view in the completed Work, provide materials with smooth, flat surfaces without blemishes. Do not use materials with exposed pitting, seam marks, roller marks, rolled trade names, or roughness.
- C. Doors and Frames: Grind exposed welds smooth and flush with adjacent surfaces. Furnish attachment devices and fasteners of type required to secure access doors to types of supports indicated.
- D. Latching Mechanisms: Furnish number required to hold doors in flush, smooth plane when closed.
  - 1. For cylinder locks, furnish two keys per lock and key all locks alike.
  - 2. For recessed panel doors, provide access sleeves for each locking device. Furnish plastic grommets and install in holes cut through finish.

## 2.4 FINISHES

- A. Comply with NAAMM's "Metal Finishes Manual for Architectural and Metal Products" for recommendations for applying and designating finishes.
- B. Protect mechanical finishes on exposed surfaces from damage by applying a strippable, temporary protective covering before shipping.
- C. Appearance of Finished Work: Noticeable variations in same piece are not acceptable. Variations in appearance of adjoining components are acceptable if they are within the range of approved Samples and are assembled or installed to minimize contrast.
- D. Steel and Metallic-Coated-Steel Finishes:
  - 1. Factory Prime: Apply manufacturer's standard, fast-curing, lead- and chromate-free, universal primer immediately after surface preparation and pretreatment.
  - 2. Factory Finish: Immediately after cleaning and pretreating, apply manufacturer's standard two-coat, baked-on finish consisting of prime coat and thermosetting topcoat, with a minimum dry-film thickness of 1 mil (0.025 mm) for topcoat.

## PART 3 - EXECUTION

### 3.1 INSTALLATION

- A. Comply with manufacturer's written instructions for installing access doors and frames.
- B. Install doors flush with adjacent finish surfaces or recessed to receive finish material.

### 3.2 ADJUSTING

- A. Adjust doors and hardware, after installation, for proper operation.
- B. Remove and replace doors and frames that are warped, bowed, or otherwise damaged.

END OF SECTION 083113

## SECTION 101419 - DIMENSIONAL LETTER SIGNAGE

### PART 1 - GENERAL

#### 1.1 SUMMARY

- A. Section Includes:
  - 1. Cutout dimensional characters.

#### 1.2 ACTION SUBMITTALS

- A. Product Data: For each type of product.
- B. Shop Drawings: For dimensional letter signs.
  - 1. Include fabrication and installation details and attachments to other work.
  - 2. Show sign mounting heights, locations of supplementary supports to be provided by others, and accessories.
  - 3. Show message list, typestyles, graphic elements, and layout for each sign at least ½" scale.
- C. Samples: For each exposed product and for each color and texture specified.
- D. Sign Schedule: Use same designations specified or indicated on Drawings or in a sign schedule.
- E. Delegated-Design Submittal: For signage attached to bridge.
  - 1. Include structural analysis calculations for signs indicated to comply with design loads; signed and sealed by the qualified professional engineer responsible for their preparation.

#### 1.3 INFORMATIONAL SUBMITTALS

- A. Sample warranty.

#### 1.4 CLOSEOUT SUBMITTALS

- A. Maintenance data.

#### 1.5 WARRANTY

- A. Special Warranty: Manufacturer agrees to repair or replace components of signs that fail in materials or workmanship within specified warranty period.
  - 1. Warranty Period: **Five** years from date of Substantial Completion.

## PART 2 - PRODUCTS

### 2.1 PERFORMANCE REQUIREMENTS

- A. Delegated Design: Engage a qualified professional engineer, as defined in Section 014000 "Quality Requirements," to design sign structure and anchorage of panel and **dimensional character** sign type to withstand design loads as required by SCDOT.
- B. Thermal Movements: For exterior **fabricated dimensional characters**, allow for thermal movements from ambient and surface temperature changes.

### 2.2 DIMENSIONAL CHARACTERS

- A. Cutout Characters (detail on Sheet A4.0): Characters with uniform faces; square-cut, smooth, **eased** edges; precisely formed lines and profiles; and as follows:
  - 1. Manufacturers: Subject to compliance with requirements, **provide products by one of the following:**
    - a. ASI Sign Systems, Inc.
    - b. Charleston Industries, Inc.
    - c. Flagship Signs
    - d. Gemini Incorporated.
  - 2. Character Material: Sheet or plate **aluminum**.
  - 3. Character Height: **As indicated**
  - 4. Thickness: **0.25 inch (6.35 mm)**
  - 5. Finishes:
    - a. Baked-Enamel or Powder-Coat Finish, or approved automotive finish: Manufacturer's standard, in color **as selected by Architect from manufacturer's full range**.
    - b. Overcoat: **Manufacturer's standard baked-on clear coating**.
  - 6. Mounting: **Concealed, studs or painted aluminum back bar or bracket assembly**.

### 2.3 ACCESSORIES

- A. Fasteners and Anchors: Manufacturer's standard as required for secure anchorage of signage, noncorrosive and compatible with each material joined, and complying with the following:
  - 1. Use concealed fasteners and anchors unless indicated to be exposed.
  - 2. For exterior exposure, furnish **nonferrous-metal** devices unless otherwise indicated.
  - 3. Exposed Metal-Fastener Components, General:
    - a. Fabricated from same basic metal and finish of fastened metal unless otherwise indicated.
  - 4. Sign Mounting Fasteners:
    - a. Concealed Studs: Concealed (blind), threaded studs welded or brazed to back of sign material, screwed into back of sign assembly, or screwed into tapped lugs cast integrally into back of cast sign material, unless otherwise indicated.

- b. Projecting Studs: Threaded studs with sleeve spacer, welded or brazed to back of sign material, screwed into back of sign assembly, or screwed into tapped lugs cast integrally into back of cast sign material, unless otherwise indicated.
- c. Through Fasteners: Exposed metal fasteners matching sign finish, with type of head indicated, installed in predrilled holes.

B. Bituminous Paint: Cold-applied asphalt emulsion complying with ASTM D 1187.

## 2.4 FABRICATION

A. General: Provide manufacturer's standard sign assemblies according to requirements indicated.

1. Mill joints to a tight, hairline fit. Form assemblies and joints exposed to weather to resist water penetration and retention.
2. Provide welds and brazes behind finished surfaces without distorting or discoloring exposed side. Clean exposed welded and brazed connections of flux, and dress exposed and contact surfaces.
3. Conceal connections if possible; otherwise, locate connections where they are inconspicuous.
4. Internally brace signs for stability and for securing fasteners.
5. Provide rebates, lugs, and brackets necessary to assemble components and to attach to existing work. Drill and tap for required fasteners. Use concealed fasteners where possible; use exposed fasteners that match sign finish.

B. Brackets: Fabricate brackets, fittings, and hardware for bracket-mounted signs to suit sign construction and mounting conditions indicated. Modify manufacturer's standard brackets as required.

1. Aluminum Brackets: Factory finish brackets with baked-enamel or powder-coat finish to **match sign-background color** unless otherwise indicated.

## PART 3 - EXECUTION

### 3.1 INSTALLATION

A. General: Install signs using mounting methods indicated and according to manufacturer's written instructions.

1. Install signs level, plumb, true to line, and at locations and heights indicated, with sign surfaces free of distortion and other defects in appearance.
2. Before installation, verify that sign surfaces are clean and free of materials or debris that would impair installation.
3. Corrosion Protection: Coat concealed surfaces of exterior aluminum in contact with grout, concrete, masonry, wood, or dissimilar metals, with a heavy coat of bituminous paint.

B. Mounting Methods:

1. Concealed Studs: Using a template, drill holes in substrate aligning with studs on back of sign. Remove loose debris from hole and substrate surface.

- a. Thin or Hollow Surfaces: Place sign in position and flush to surface, install washers and nuts on studs projecting through opposite side of surface, and tighten.
  2. Projecting Studs: Using a template, drill holes in substrate aligning with studs on back of sign. Remove loose debris from hole and substrate surface.
    - a. Thin or Hollow Surfaces: Place spacers on studs, place sign in position with spacers pinched between sign and substrate, and install washers and nuts on stud ends projecting through opposite side of surface, and tighten.
  3. Through Fasteners: Drill holes in substrate using predrilled holes in sign as template. Countersink holes in sign if required. Place sign in position and flush to surface. Install through fasteners and tighten.
  4. Back Bar and Brackets: Remove loose debris from substrate surface and install backbar or bracket supports in position so that signage is correctly located and aligned.
- C. Remove temporary protective coverings and strippable films as signs are installed.

END OF SECTION 101419



## **ELECTRICAL SPECIFICATIONS**

SECTION 16050  
ELECTRICAL, GENERAL

PART 1 - GENERAL

1.1 FEES

- A. Fees for permits are included. Deliver permits to the Architect.

1.2 SITE VISIT

- A. Prior to bidding, this Contractor shall visit the job site and shall familiarize himself with all conditions under which work is to be performed and shall include in his bid all labor, material and operations required for a complete job.

1.3 DRAWINGS AND SPECIFICATIONS

- A. Drawings do not indicate all hardware and fittings. Examine all plans and specifications for the project and conditions at site and arrange work accordingly, furnishing required fittings and hardware without extra charge. If a conflict exists, the greater quantity or better quality, in the opinion of the Engineer, governs.
- B. Drawings and specifications are complementary; work called for in either shall be provided as if called for by both.

1.4 CODES AND STANDARDS

- A. Materials, equipment and installation shall conform to the requirements of the codes and standards (latest editions) listed below. In addition, all materials, equipment, and devices shall meet the requirements of the Underwriters' Laboratories, Inc. The label of, or listing by, the Underwriters' Laboratories, Inc. will be accepted as conforming with this requirement. In lieu of the label or listing, the Contractor may submit independent proof satisfactory to the Engineer that the materials, equipment or devices conform to the published standards, including methods of tests, of the Underwriters' Laboratories, Inc. (UL), National Electrical Code (NEC), National Electrical Safety Code, American National Standards Institute (ANSI), American Society for Testing and Materials (ASTM), Institute of Electrical and Electronics Engineers (IEEE), National Electrical Manufacturers Association (NEMA), Illuminating Engineering Society (IES), National Fire Protection Association (NFPA), National Electrical Contractors Association Standard Practices for Good Workmanship in Electrical Contracting (NECA 1), International Building Code (IBC) and Americans with Disabilities Act (ADA).

1.5 BASIC MATERIALS AND METHODS

- A. All materials installed shall be new, clean, in good condition and shall meet applicable provisions of codes and standards listed above.
- B. Workmanship shall be in accordance with best practice.

1.6 SCOPE

- A. Provide all labor, equipment, material, and operations required for complete, safe and quietly-operating electrical systems in accordance with specifications and drawings and subject to terms and conditions of the contract.

- B. The work includes:
  - 1. Grounding in accordance with specifications, drawings and codes;
  - 2. Complete distribution for lighting including ballasts, feeders, distribution panelboards, branch circuits, lighting fixtures and lamps, controls, switches, outlets and switching circuits;
  - 3. Complete distribution system for power including panelboards, feeders, branch circuits, and connections to outlets and devices for power utilization;
  - 4. Empty raceways, cabinets, equipment panels, and service entrance for structured cabling equipment;
  - 5. Power supply connections to mechanical equipment;
  - 6. Cutting, patching, trenching and backfilling as required for provision of the work;
  - 7. Seismic restraint for electrical system components;

#### 1.7 CUTTING AND PATCHING

- A. Provide under this contract all cutting and patching of walls, floors, partitions, ceilings, etc. required for proper installation of the new system.
- B. Provide patching to match the existing finish of the building. Do not cut joists, beams, girders, columns, or other structural members without written permission from Owner.
- C. Ceiling tile shall be removed and reinstalled by a qualified franchised acoustical tile contractor regularly engaged in this type of work. Replace damaged tile with new tile of color and pattern to match existing tile. Submit samples for approval.
- D. Relocation of existing conduit, equipment, wiring, etc. as required for installation of new system is included in this work. Perform all work in accordance with specifications for new work of the particular type involved.

#### 1.8 EXCAVATING AND BACKFILLING

- A. Provide under this contract all excavating and backfilling required for the installation of electrical work.
- B. Contractor shall notify Engineer prior to backfilling. Do not begin backfilling until Owner's representative has observed the work. Excavations shall be filled as soon as possible and not left open for prolonged periods.
- C. Provide safety (warning) barricades around all open trenches and holes before leaving unattended. Do not leave exposed wiring in a trench unattended.
- D. Backfilled shall be done in layers of 6 inches fill, wetted down and tamped for each consecutive layer up to grade to a compaction of at least 95 percent of AASHTO T-99-49 Proctor Curve.
- E. Whenever trenches have not been properly filled, or if settlement occurs, they shall be refilled, smoothed off and finally made to conform to the surface of the ground. Backfilling shall be carefully performed and the original surface restored to original conditions to the full satisfaction of the Engineer.

#### 1.9 ROOF PENETRATIONS

- A. Contractor shall coordinate roof penetrations with other trades and shall provide all work required for complete raceways and raceway supports for electrical work for roof-mounted equipment and devices.

- B. Provide flashing devices not included under other divisions of these specifications. All work shall comply with requirements for roof construction and shall in no way alter any specified roof performance or warranties.
- C. Where several services (e.g., electrical and refrigeration) are connected to a single equipment, coordinate with other trades involved to minimize roof penetrations and to perform work in a workmanlike manner.
- D. Lay out work in advance and locate raceway penetrations as near equipment connection points as possible. Where more than one raceway serves equipment, extend all raceways through a common flashing device with one roof penetration and leave sufficient space between raceways to affect a leakproof seal.
- E. Contractor shall examine other divisions of these specifications and shall comply with all requirements for a complete project.

#### 1.10 SEISMIC RESTRAINTS

- A. Provide seismic restraint of new electrical systems and equipment as required by 2009 International Building Code (IBC). Seismic restraint products shall be by Cooper/B-line, Mason Industries, Unistrut Corporation, Grinnell Corporation, Amber Booth, Peabody or approved equal.

#### 1.11 DAMAGES

- A. Cost of repairing damage to building, building contents, and site during construction and guarantee period resulting from this work is a part of this contract.

#### 1.12 MATERIAL AND EQUIPMENT

- A. New and as specified, or approved equal.
- B. Where several units of one type of equipment are used, all units shall be products of the same manufacturer.
- C. Any increase in the cost of this work, resulting from substitution of any product or products for those specified is part of this contract. Such work shall be accomplished in an approved manner at no extra cost to the Owner.

#### 1.13 REQUESTS FOR PRIOR APPROVAL

- A. Requests for prior approval shall comply with AIA A701, Instructions to Bidders, Article 3.3.
- B. Submit requests for prior approval to Engineer no fewer than ten working days prior to bid time. Requests shall be approved in writing by Engineer.
- C. Requests for prior approval shall provide the following information:
  1. Dated list of items for which approval is requested. Include project name and requesting company's name on request. For lighting fixtures, summary shall include same information required on shop drawing submittals.
  2. Identification of equipment for which approval is requested, e.g., fixture symbol, etc.
  3. Descriptive literature, catalog cuts, etc. which describe equipment or devices for which approval is requested.
- D. Approval of the A/E to use materials and/or equipment, if granted, will be in the form of a written addendum. Approved prior approvals may be used at Contractor's option. No substitutions will

be allowed, nor will an increase in contract price or time be allowed (for using materials specified) if prior approvals have been requested later than ten (10) days prior to bid opening date.

#### 1.14 OPERATING INSTRUCTIONS, PANELBOARD DIRECTORIES AND NAMEPLATES

- A. Instruct owner in operation of all systems.
- B. Install in each panelboard a single-sided plastic-covered, typewritten circuit directory in metal frame. Indicate name, address and service telephone number of installer. Directory shall list the load served and the location of the load for each breaker.
- C. Nameplates Provided by Contractor: On all panelboards, disconnect switches, transformers and enclosures, provide engraved plastic laminate nameplates. Unless otherwise noted, nameplates to be 1/16" thick plastic with 1/4" high white letters on black background. Attach nameplates with epoxy cement or screws. On main switchboard/panelboard and feeder distribution panelboards, provide nameplate for each circuit breaker.
- D. Nameplates Provided by Equipment Manufacturers: All switchboards, panelboards, transformers, safety switches and the like shall be provided with engraved metal nameplates which state all industry-standard required data about the labeled equipment. Nameplates shall be affixed with screws or rivets. The use of paper nameplates only will not be accepted.

#### 1.15 SHOP DRAWINGS

- A. The Engineer will review and take appropriate action on shop drawings, product data, samples, and other submittals required by the Contract Documents. Such review shall be only for general compliance with the design and with the information given in the Contract Documents. It shall not include review of quantities, dimensions, weights, fabrication processes, construction methods, coordination with the work of other trades, or construction safety precautions, all of which are the sole responsibility of the Contractor. Engineer's review shall be conducted with reasonable promptness consistent with sound professional practice. Review of a specific item shall not indicate acceptance of an assembly of which the item is a component. The Engineer shall not be required to review and shall not be responsible for any deviations from the Contract Documents not clearly noted by the Contractor, nor shall the Engineer be required to review partial submissions or those for which submissions for correlated items have not been made.
- B. Prior to submittal of shop drawings to the Engineer, the General Contractor and the Electrical Subcontractor shall review and approve shop drawings. Shop drawings which have not been reviewed and approved in writing by the Electrical Subcontractor will not be reviewed by the Engineer. Electrical Subcontractor shall state in writing on shop drawings, any proposed deviations from contract documents. Such deviations, if not stated in shop drawings submittal, shall be the sole responsibility of the Electrical Subcontractor.

**NOTE:** IN ADDITION TO THE GENERAL CONTRACTOR'S APPROVAL AND STAMP, THE FIRST PAGE OF EACH SHOP DRAWING SUBMITTAL SHALL CONTAIN THE WORDS "APPROVED" OR "APPROVED AS NOTED," AND SHALL BE SIGNED, AND DATED BY THE ELECTRICAL SUBCONTRACTOR BEFORE THE ENGINEER WILL REVIEW THEM.

- C. Lighting fixture submittal shall contain a cover sheet listing:
  - 1. Project name;
  - 2. All proposed fixtures by symbol, manufacturer, and catalog number;
  - 3. Contractor's approval stamp and signature as noted above.  
Attach fixture catalog pages (cuts) to cover sheet.

- D. Electrical subcontractor shall submit for review by the Engineer detailed shop drawings of all equipment and all material listed below. All submittal data shall be submitted at one time. Partial submittals will not be reviewed by the Engineer. No material or equipment for which Engineer's review is required shall be delivered to the job site or installed until this contractor has in his possession the reviewed shop drawings for the particular material or equipment. The shop drawings shall be complete as described herein. This Contractor shall furnish the number of copies specified by the Architect or six (6) copies of shop drawings if no number is specified by the Architect.
- E. Shop drawings submitted for review shall be detailed, dimensioned drawings or catalog pages showing construction, size, arrangement, operating clearances, performance characteristics and capacity.
- F. Samples, drawings, specifications, catalogs, submitted for review shall be properly labeled indicating specific service for which material or equipment is to be used, section and article number of specifications governing, contractor's name, and project name.
- G. Catalogs, pamphlets, or other documents submitted to describe items on which review is being requested, shall be specific and identification in catalog, pamphlet, etc. of item submitted shall be clearly made in ink. Data of a general nature will not be accepted.
- H. Review rendered on shop drawings shall not be considered as a guarantee of measurements of building conditions. WHERE DRAWINGS ARE REVIEWED, SAID REVIEW DOES NOT MEAN THAT DRAWINGS HAVE BEEN CHECKED IN DETAIL; SAID REVIEW DOES NOT IN ANY WAY RELIEVE THIS CONTRACTOR FROM HIS RESPONSIBILITY OR NECESSITY OF FURNISHING MATERIAL OR PERFORMING WORK AS REQUIRED BY THE CONTRACT DRAWINGS AND SPECIFICATIONS.
- I. Failure of contractor to submit shop drawings in time for review by Engineer with reasonable promptness consistent with sound professional practice shall not entitle him to an extension of contract time, and no claim for extension by reason of such default will be allowed.
- J. The Contractor shall submit shop drawings for the following materials and equipment for review by Engineer: See "Note" in paragraph B, above.
  - 1. Lighting fixtures, lamps and ballasts
  - 2. Lighting controls
  - 3. Panelboards
  - 4. Safety switches
  - 5. TVSS
  - 6. Basic materials: wire, conduit, fittings, wiring devices

#### 1.16 RECORD DATA

- A. Preserve one set of approved shop drawings and deliver to Owner prior to substantial completion of the work. Owner's shop drawings shall be bound in a 3-ring binder of good quality, with stiff vinyl or cloth front and back. Number of copies shall be as directed by Architect.

#### 1.17 RECORD DRAWINGS

- A. Contractor shall maintain on the job site one complete set of drawings for this project. All changes authorized by the Engineers and/or the Owner as to the locations, sizes, etc. of equipment, conduit, fixtures, and/or other material and equipment shall be indicated in red pencil on the drawings as the work progresses. At the completion of the project, Contractor shall obtain a complete set of reproducible of the drawings, and shall transfer all changes to

these reproducibles. The number of record prints specified by the Architect shall be delivered to the Architect.

#### 1.18 COORDINATION WITH OTHER TRADES

- A. Coordinate with other trades to conceal electrical work and provide electrical work in correct locations for each piece of mechanical or electrical equipment connected.
- B. Conceal outlets for all water coolers, mechanical equipment, etc., in finished areas. Obtain roughing diagrams for all devices and install electrical work according to diagrams.
- C. Locate all outlets at uniform heights to suit block coursing. Heights shown in drawings may be varied to suit coursing, but shall in all cases comply with codes.

#### 1.19 ELECTRICAL WORK FOR MECHANICAL SYSTEMS

- A. Provide complete power wiring and connections for mechanical systems specified under Division 15. This work includes all raceways, conductors, outlet and pull boxes, line voltage on-off switches where indicated and disconnecting means as indicated and required by applicable codes. Where magnetic motor starters, variable frequency drives or other controllers are furnished by others, install and wire complete; where controllers are provided already mounted on equipment, wire complete. In all cases provide power wiring through controller to load; do not reduce. Make all connections and color code per this division. Unless noted otherwise, safety switch enclosures shall be NEMA Type 3R outdoors and in wet locations; NEMA Type 1, elsewhere. Not included in this division is temperature control wiring, equipment control wiring, and interlock wiring required to operate the mechanical system, except as specified below for water heaters. Refer to Division 15 for equipment provided under that Division.

#### 1.20 EQUIPMENT FOUNDATIONS AND MOUNTING

- A. Unless otherwise noted, set all floor and ground mounted equipment on 6" high concrete pads reinforced with 6 x 6, 10/10 WWM. Epoxy dowel #4 rebar 12" on center along entire perimeter of pad as required to tie pad into base slab. Pads to be approximately 6" larger than equipment base and have 1" x 1" chamfer on all edges. Pads to have carborundum brick rubbed finish. Surface finish to be uniformly smooth.
- B. Provide all required mounting devices, hardware, supplementary steel and other materials to mount equipment. Mountings shall be secured to structure and seismically braced to comply with codes. Where additional structural members such as columns, beams, and the like are required to mount equipment, they shall be provided at no additional cost to the Owner.

#### 1.21 TESTS, PERFORMANCE

- A. Upon completion of work, the system shall be free of faults, including short circuits, grounds and open circuits and loads shall be balanced across phases to obtain minimum neutral current in all feeders and branch circuits. Test systems as required in the presence of the Engineer or his representative, and operate to comply with applicable codes and contract documents.
- B. All costs associated with correction of deficiencies in the work shall be borne by the Contractor. Defective material and equipment shall be replaced; do not repair.
- C. All devices which must be adjusted or set to operate on a schedule (time clocks, program mechanisms, etc.) shall be set prior to substantial completion to operate on schedules directed by the Owner.

## 1.22 WARRANTIES

- A. The Contractor Agrees:
  - 1. To correct defects in workmanship, materials, equipment, and operation of all systems for a period of one year from the date of Substantial Completion.
  - 2. To remove any item not specified or given written approval and replace it with an approved item.
  - 3. That all systems provided will safely, quietly, and efficiently operate in accordance with the design.
- B. This does not supersede manufacturer's warranties which may extend beyond one year.

## 1.23 CONSTRUCTION SEQUENCE

- A. The Contractor is cautioned that the project may be constructed in stages to accommodate the owner's use of the building. This contractor shall verify requirements prior to bidding and shall cooperate in all respects with other contractors and trades on the job to carry out the work with minimum disruption of both the owner's requirements and construction of the project.

## 1.24 DETAILS

- A. The details and sketches in the drawings are construction standards applicable to this project.
- B. The contractor shall comply with details as applicable to the work indicated and shall retain on the job site at all times, a complete set of drawings and specifications.

## 1.25 DEFINITIONS

- A. In this division of the specifications and accompanying drawings, the following definitions apply:
  - 1. Provide: To purchase, pay for, transport to the job site, unpack, install and connect complete and ready for operation; to include all permits, inspections, equipment, material, labor, hardware and operations required for completion.
  - 2. Install: To receive from another contractor, the owner or another entity and install complete and ready for operation. Unless otherwise indicated, receipt is assumed to be at the job site.
  - 3. Furnish: To purchase, pay for and deliver to the job site for installation by others.
  - 4. The contractor is cautioned that "furnish" and "install" require coordination with others. Such coordination shall be accomplished prior to bidding and bid amounts shall include all required labor, material and operations for completion of all items and systems specified and indicated.
  - 5. As Indicated: As shown in drawings.

PART 2 – PRODUCTS (Not Used)

PART 3 – EXECUTION (Not Used)

END OF SECTION 16050



## SECTION 16400

### INTERIOR WIRING SYSTEMS

#### PART 1 - GENERAL

##### 1.1 RELATED DOCUMENTS

- A. Section 16050, Electrical, General, applies to the work under this section.

##### 1.2 SCOPE

- A. Provide interior wiring systems complete and ready for operation, as indicated, specified herein and in compliance with applicable codes and standards.

#### PART 2 - PRODUCTS

##### 2.1 MANUFACTURERS

- A. Materials of like type shall be manufactured by the same company with the exception of lighting fixtures.
- B. Panelboards, circuit breakers, safety switches, motor starters, contactors and the like: General Electric, Siemens-ITE, Square D, Cutler-Hammer, or approved equal.
- C. Fittings, Condulets, Boxes and the like: Steel City, Thomas and Betts, O-Z Electrical Manufacturing Company, Appleton, Efcor, Crouse-Hinds, Garvin Industries, or approved equal.
- D. Conductors and Cables: Anaconda, Triangle Conduit and Cable Corp., Southwire Company, General Cable, Rome Cable, or approved equal.
- E. Cable Markers: 3M Company, E-Z Code, Brady, or approved equal.
- F. Connectors, Lugs and Terminals and the like: 3M Company, Ideal, Thomas and Betts, O-Z Electrical Manufacturing Company, or approved equal.
- G. Wiring Devices and the like: Best Specification Grade; Arrow Hart, Hubbell, G.E., P & S, Leviton, or approved equal.
- H. Fuses: Bussman, Gould, Littelfuse, or approved equal.
- I. Grounding Devices, Rods and the like: Cadweld, Thomas and Betts, Appleton, Erico, O-Z Electrical Manufacturing Company, or approved equal.
- J. AC and MC Cable: Connectors: Not permitted.

##### 2.2 CONDUIT AND FITTINGS

- A. Rigid Steel Conduit (Zinc-Coated): ANSI C80.1.
- B. Rigid Nonmetallic Conduit: PVC Type EPC-40 in accordance with NEMA TC2.
- C. Intermediate Metal Conduit (IMC): UL 1242, zinc-coated steel only.

- D. Electrical Metallic Tubing (EMT): ANSI C80.3.
- E. Flexible Metal Conduit: UL 1.
  - 1. Liquid-Tight Flexible Metal Conduit (Steel): UL 360.
- F. Fittings for Metal Conduit, Electrical Metallic Tubing, and Flexible Metal Conduit: UL 514. All ferrous fittings shall be cadmium- or zinc-coated in accordance with UL 514.
  - 1. Fittings for rigid metal conduit and IMC shall be threaded type. Split couplings are not acceptable.
  - 2. Fittings for electrical metallic tubing (EMT) shall be the compression type.
- G. Fittings for Rigid Nonmetallic Conduit: NEMA TC3.
- H. Electrical Nonmetallic Tubing (ENT): Not permitted.

### 2.3 OUTLET BOXES AND COVERS

- A. UL 514, cadmium- or zinc-coated if of ferrous metal.
- B. Provide outlet boxes of size and type required by NEC, and in no case smaller than the following:
  - 1. Boxes for lighting fixtures: 4" octagonal x 1-1/2" deep, or 4" x 4" x 1-1/2"
  - 2. Boxes for Switches and Receptacles: 3" x 2" x 2-3/4" or 4" x 4" x 1-1/2" with plaster ring to suit construction
  - 3. Telephone boxes: 4" x 4" x 2-1/4"
  - 4. Communications Systems Boxes: 4" x 4" x 2-1/4"
- C. Provide suitable extensions, rings or subcovers set to come flush with the finished surface in which boxes are mounted.
- D. Boxes for exposed raceway shall be threaded-hub cast metal, sizes as specified above.

### 2.4 CABINETS, JUNCTION BOXES, AND PULL BOXES

- A. UL 50, hot-dip zinc-coated, code gauge sheet steel, screw cover unless indicated otherwise.

### 2.5 WIRES AND CABLES

- A. Wires and cables shall meet the applicable requirements of NFPA 70 and UL for the type of insulation, jacket, and conductor specified or indicated. All wire and cable shall be new, with size, grade of insulation, voltage and manufacturer's name permanently imprinted on outer covering at regular intervals, and delivered to the job site in complete coils and reels.
- B. Conductors: Conductors No. 10 AWG and smaller shall be solid, and those No. 8 AWG and larger shall be stranded. Unless indicated otherwise, conductor sizes shown are based on copper. All conductors shall be copper.
- C. Minimum Conductor Sizes: Minimum size for branch circuits shall be No. 12 AWG; for Class 1 remote-control and signal circuits, No. 14 AWG; and for Class 2 low-energy remote-control and signal circuits, No. 16 AWG. All 120 v. branch circuits exceeding 100' in length.
- D. Color Coding: Provide for all service, feeder, branch, control and signaling circuit conductors. Color shall be green for grounding conductors, and white for neutrals, except where neutrals of more than one system are installed in same raceway or box, the neutral of the higher-voltage system shall be white with a yellow stripe, or shall be gray. The color of the ungrounded conductors in different voltage systems shall be as follows:

1. 120/208 volt, 3-phase: Phase A - black  
Phase B - red  
Phase C - blue
2. 120/240 volt, single phase: red and black.
3. On 3-phase, 4-wire delta systems, the high leg shall be orange as required by NFPA 70 and shall be located in enclosures as required by applicable codes.

E. Insulation: Unless specified or indicated otherwise, or required to be otherwise by NFPA 70, all power and lighting wires shall be 600-volt, Type THHN, THWN, or XHHW; remote-control and signal circuits shall be Type TW, THHN, TF, THWN or XHHW.

F. Bonding Conductors: ASTM B 1, solid bare copper wire for sizes No. 8 AWG and smaller; ASTM B 8, Class B, stranded bare copper wire for sizes No. 6 AWG and larger.

G. Nonmetallic-Sheathed Cable: Not permitted.

## 2.6 ELECTRICAL CONNECTIONS

A. Comply with NEC Article 110-14.

B. All termination devices, such as connectors, splicing devices, equipment terminals, device terminals and the like shall be rated and listed for operation at 75 degrees C.

## 2.7 SPLICES AND TERMINATION COMPONENTS

A. UL 486A and UL 486B, as applicable for wire connectors, and UL 510 for insulating tapes. Connectors for wires No. 10 AWG and smaller shall be insulated pressure-type in accordance with UL 486A or UL 486C (twist-on splicing connector). Provide solderless terminal lugs on stranded conductors.

B. Splices and/or taps for #8 and larger conductors shall be crimp type by T&B, Burndy, Oz, or approved equal; or IlSCO KUP-L-Tap®, ClearTap, or approved equal.

## 2.8 DEVICE PLATES

A. Provide UL listed, one-piece device plates for outlets and fittings to suit the devices installed. Plates on unfinished walls and on fittings shall be of zinc-coated sheet steel or cast metal having round or beveled edges. Plates on finished walls be satin finish stainless steel. Screws shall be machine type with countersunk heads in a color to match the finish of the plate. The use of sectional type device plates will not be permitted. Plates installed in wet locations shall be gasketed. All plates shall be oversize type.

## 2.9 SWITCHES

A. Toggle Switches: Fed. Spec. W-S-896, totally enclosed with bodies of thermosetting plastic and a mounting strap. Handles shall be white, gray, brown or ivory. Wiring terminals shall be of the screw type, side wired. Switches shall be rated quiet-type ac only, 120/277 volts, with the current rating and number of poles indicated. Colors shall be as directed by Architect.

B. Disconnect Switches: NEMA KS1. Provide heavy duty, fusible type. General duty and non-fusible switches are not permitted.

1. Operating mechanisms shall be of the quick-make, quick-break type, with arc-suppressing characteristics.

2. Enclosures shall be NEMA 1 indoors and NEMA 3R outdoors and in wet locations unless otherwise indicated, equipped with cover interlock and provisions for padlocking

operating handle in OFF position. Safety switches shall be by the same manufacturer as panelboards.

## 2.10 RECEPTACLES

- A. NEMA WD1, heavy-duty, grounding type. Ratings and configurations shall be as indicated. Bodies shall be of gray thermosetting plastic supported on a metal mounting strap. Wiring terminals shall be of the screw type, side wired. Connect grounding pole to the mounting strap.
- B. Ground Fault Circuit Interrupter Receptacles: UL 943, and shall be duplex type for mounting in a standard outlet box. The device shall be capable of detecting a current leak of 5 milliamperes.
- C. Receptacles shall be by same manufacturer as toggle switches, as specified above.
- D. Install grounding type receptacles with the grounding terminal at the top.

## 2.11 PANELBOARDS

- A. UL 67 and UL 50. Panelboards for use as service disconnecting means shall additionally conform to UL 869. Panelboards shall be circuit breaker equipped unless indicated otherwise. Design shall be such that any individual breaker can be removed without disturbing adjacent units or without loosening or removing supplemental insulation supplied as a means of obtaining clearances as required by UL. Where "space only" is indicated, make provisions for the future installation of a breaker sized as indicated. All panelboard locks included in the project shall be keyed alike. Directories shall be typed to indicate load served by each circuit and mounted in a holder behind transparent protective covering. Directory listing for each breaker shall list the type load served (lighting, receptacles, etc.) and location of load (room name, room number, etc.)
- B. Panelboard Buses: Support bus bars on bases independently of the circuit breakers. Main buses and back pans shall be designed so that breakers may be changed without machining, drilling, or tapping. Provide an isolated neutral bus in each panel for connection of circuit neutral conductors. Provide a separate ground bus marked with a green stripe along its front and bonded to the steel cabinet for connecting grounding conductors.
- C. Circuit Breakers: Fed. Spec. W-C-375 thermal magnetic type with interrupting capacity as indicated or of 22,000 amperes symmetrical minimum. Breaker terminals shall be UL listed as suitable for the type of conductor provided. Plug-in circuit breakers shall be provided only where indicated in drawings.
  - 1. Multipole Breakers: Provide common-trip type with a single operating handle. Breaker design shall be such that an overload in one pole automatically causes all poles to open. Maintain phase sequence throughout each panel so that any three adjacent breaker poles are connected to Phases A, B, and C, respectively.
  - 2. Circuit Breaker with Ground-Fault Circuit Interrupter: UL 1053 and NFPA 70. Provide with "push-to-test" button, visible indication of tripped condition, and ability to detect a current imbalance of approximately 5 milliamperes.
  - 3. Circuit Breaker for Arc-Fault Circuit Interrupter: UL 1699 and NFPA 70. Provide "Push-to-Test" button and visual indication of tripped condition.
  - 4. Breakers Used as Switches for 120-Volt Fluorescent Fixtures: Breakers shall be marked "SWD" in accordance with UL 489.
  - 5. Breakers used to serve refrigeration and air conditioning compressors shall be type "HACR."

## 2.12 FUSES

- A. Provide a complete set of fuses for each fusible device provided. Time-current characteristics curves of fuses serving motors or connected in series with circuit breakers or other circuit protective devices shall be coordinated for proper operation; submit coordination data for approval. Fuses shall have a voltage rating not less than the circuit voltage.
- B. Cartridge Fuses, Current-Limiting Type (Class R): UL 198E, time-delay type. Associated fuseholders shall be Class R only.
- C. Cartridge Fuses, Current-Limiting Type (Classes J and L): UL 198C, Class J for 0 to 600 amps and Class L for 601 to 6000 amps.

## 2.13 GROUNDING AND BONDING EQUIPMENT

- A. UL 467. Ground rods shall be copper-encased steel, with minimum diameter of 3/4" and minimum length of 10 feet.

## PART 3 - EXECUTION

### 3.1 ELECTRICAL SERVICE SYSTEMS

- A. Provide service entrance of voltage and phase characteristics indicated.
- B. Provide the required meter sockets, cabinets, raceways, fittings, and connections to comply with power company metering requirements for the service entrance capacity and characteristics to be utilized.
- C. Coordinate with power company to determine requirements for service and metering, and include in this work all provisions for compliance with these requirements.
- D. Color code service entrance conductors at transformer and as specified above.
- E. Service entrance conductors shall be as specified for feeders.

### 3.2 RACEWAYS

- A. Provide raceways for all conductors and cables. See drawings for raceway types approved for various locations and applications in the project.
- B. Provide flexible metal conduit for connection to rotating or vibrating equipment. In all potentially wet locations, provide waterproof flexible conduit. In no case shall length of flexible conduit exceed 3 feet, except for transformers, where length shall not exceed 2 feet. Support in accordance with NEC and as approved by Engineer.
- C. Contractor shall size pull and junction boxes. Comply with requirements for dimensions and conduit spacings as defined in the NEC Article 314.
- D. Raceways shall be continuous between outlets and enclosures. Bond raceway system as described in drawings and grounding specifications, and make all connections wrench tight for electrical continuity. Connect raceways at boxes and enclosures using locknuts and bushings. Provide insulating bushings with grounding lug on all raceways one inch and larger.
- E. Install raceways generally as follows:
  - 1. Run concealed raceways in straight lines with long sweep bends and offsets.

2. Where raceways turn up out of floor, curved portion shall not be visible.
  3. Run exposed raceways parallel and perpendicular with building lines. Strap with two-hole flat straps; do not use minerallac straps.
  4. Support raceways within 3' of each outlet box, fitting, or enclosure, and at 10' intervals. Use malleable iron or stamped steel clamps for branch circuit raceways; use pipe hangers for feeder raceways. Do not hang conduit with wire, perforated strap, or nails.
  5. Cut all joints square, thread, ream and draw tight. Make bends and offsets with standard conduit ells or with an approved bender or hickey.
  6. No more than three quarter-bends equivalent in any run.
  7. Cap raceway ends to prevent entrance of debris during construction. Cap with approved pennies, plastic caps or covers; do not tape.
  8. Complete raceway installation and clean thoroughly before pulling conductors.
  9. Where conduits pass through fire-rated walls and/or floors, provide a UL-listed through-penetration assembly with fire rating equal to wall or floor penetrated. Materials shall be by 3M Company or equal. Each assembly shall be specific to the penetrating device, e.g., single conduit, multiple conduits, busway, etc. and shall be specific to the wall or floor construction penetrated, e.g., concrete, gypsum board on wall studs, etc. Install assemblies in accordance with material manufacturer's instructions and UL Building Materials Directory, latest edition.
  10. Install expansion fittings with copper bonding jumpers in conduit runs which cross building expansion joints.
  11. Ferrous metal raceways, cable trays, cablebus, auxiliary gutters, cable armor, boxes, cable sheathing, cabinets, metal elbows, couplings, nipples, fittings, supports, and support hardware shall be suitably protected against corrosion inside and outside (except threads at joints) by a coating of approved corrosion-resistant material (Thomas & Betts, Kopr-Shield, or equal). Where corrosion protection is necessary and the conduit is threaded in the field, the threads shall be coated with an approved electrically conductive, corrosion-resistant compound.
- F. Install pull boxes as shown in drawings and as required to pull conductors without damage to insulation. Provide pull boxes in accessible locations only, and size in accordance with NEC.
- G. Unless otherwise indicated, underground service entrance conduits may be Schedule 40 PVC or coal-tar painted IMC or coal-tar painted GRS conduit at the contractor's option. All elbows shall be GRS type. Maintain conduit spacing in compliance with NEC.
- H. Cover all raceways below grade and in concrete slabs with two brushed applications of a coal tar base coating conforming to MIL-C-18480. In lieu of asphalt coated conduit, Schedule 40 PVC conduit may be used for branch circuit raceways (conduits 1" and smaller), provided that grounding conductors are provided in all runs sized per NEC.
- I. At Contractor's option, Schedule 40 PVC conduit may be used for underground feeder raceways, provided that GRS elbows and grounding conductors are provided for all runs. Exposed conduits shall be metallic as specified.
- J. Install raceways of sizes shown in drawings and comply with Table 1 of NEC (latest edition). In case of conflict, install larger size.
- K. Provide in each empty raceway a pull cord or wire, identified with a cardboard tag as to location of equipment or outlet fed by conduit.

### 3.3 OUTLET, SWITCH, AND JUNCTION BOXES, FITTINGS

- A. Provide outlet and junction boxes as required for power, lighting, and communications systems as shown in drawings.

- B. Boxes shall be held securely in place by being imbedded in masonry, or shall be secured to a fixed structural unit such as a stud or joist.

### 3.4 CONDUCTORS

- A. Provide conductors in raceways as shown in drawings for service, feeders and branch circuits.
- B. Conductors No. 8 and larger shall be connected to equipment by means of pressure type mechanical lugs. Where multiple conductors are connected to the same terminal each conductor shall be provided with an individual lug.
- C. Soldered splices shall be made mechanically secure before soldering.
- D. Wire and cable shall be suitably protected from weather during storage and handling and shall be in good condition when installed.
- E. Join conductors with approved connectors, or by soldering, brazing or welding. Tape all connections or cover with approved prefabricated insulating devices to provide insulation resistance at the connection equal to that of the wire. Make splices in boxes or fittings only.
- F. Do not pull conductors before completion of masonry, concrete and other trades which generate dust and debris. See raceways section, above.

### 3.5 PANELBOARDS

- A. Where shown on drawings and indicated in riser diagram, Provide panelboards of the types and sizes indicated. Panelboards shall be installed with top of cabinet 72" above finished floor.
- B. Comply with NFPA-70, Section 408, for installation requirements and with other applicable sections for clearances. Lay out all equipment rooms in advance of roughing and notify Engineer immediately, in writing, if interferences are encountered or if code requirements cannot be met with equipment proposed.

### 3.6 SAFETY SWITCHES

- A. Provide heavy duty, fusible safety switches at locations shown on drawings, and in accordance with NEC requirements. Provide nameplates on switches as specified in Section 16050. Wording shall identify the load which switch disconnects.

### 3.7 SWITCHES AND RECEPTACLES

- A. Provide switches and receptacles for power and lighting as shown in drawings. Where indicated, verify location of receptacles with Owner prior to roughing.
- B. Gang plates where two or more devices occur at the same location. Verify locations in relation to door swings, and place devices on the strike side.
- C. Install devices at locations indicated in details.
- D. Install outlets and devices plumb, level and with positioning at roughing to suit final wall covering. Device plates shall contact finished walls all-around on all four sides.
- E. Protect devices during painting and clean-up of job. Leave devices clean and free from paint, dirt and debris.

- F. Prior to final completion, check all receptacles for shorts, opens and grounds and correct all incorrect connections. Use receptacle checker as manufactured by Daniel Woodhead Company, General Electric, Leviton, or equal.

### 3.8 GROUNDING

- A. Provide grounding system to comply with NEC, as shown on drawings and as specified.
- B. Ground main service by bonding grounding conductor to steel building frame, concrete-encased electrode, main cold water pipe and three ground rods driven twelve feet apart outside building and located at least six feet away from building footings. Do not locate under paving; drive in planted areas only.
- C. All ground rods and fittings used shall be free from paint, grease, and other poorly conducting material, and contact surfaces shall be cleaned thoroughly to ensure good metal-to-metal contact.
- D. Install bonding jumpers between all panelboards and feeder raceways connected thereto; across pull box and raceway expansion joints and across water meters located within buildings.
- E. All connections to grounding conductors shall be accessible for inspection and shall be made with solderless connectors brazed or bolted to the equipment or structure to be grounded. Unless otherwise indicated in drawings, grounding conductors within raceway system shall be installed in exposed rigid steel conduit with both conductor and conduit bonded at each end. Do not cover main service grounding until Engineer has observed connections.
- F. Provide a ground wire in all circuits sized per NEC Table 250-122 as applicable.
- G. Provide in all runs of flexible conduit a separate grounding conductor sized per NEC Table 250-122.

END OF SECTION 16400



SECTION 16500  
LIGHTING SYSTEMS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. The following apply to the work under this section:
  - 1. Section 16050, Electrical, General
  - 2. Section 16400, Interior Wiring Systems

1.2 SCOPE

- A. Provide lighting fixtures, fixture assemblies, controls and appurtenances as indicated on drawings and as required, complete with the required lamps, ballasts, hangers, escutcheons, end caps, spacers, foundations and structural supports to make a complete, safe and operable system.

PART 2 - PRODUCTS

2.1 LIGHTING FIXTURES

- A. Fixtures scheduled in drawings indicate the type and quality of equipment which will be accepted. Substitutions may be considered on the basis of equal lens and ballast quality, structural rigidity, and performance.
- B. Fixtures scheduled generally include metal or acrylic louvers and lenses. The intent of these specifications is that 100% virgin acrylic material be furnished where indicated. Copolymer and polystyrene lens materials will not be accepted. Lenses may be subjected to test on the job by the Engineer. Where prismatic lenses are scheduled, minimum thickness shall be 0.125 inch.
- C. Recess- and Flush-Mounted Fixtures: Type that can be relamped from the bottom unless noted otherwise.
- D. Suspended Fixtures: Provide with hangers to ensure a plumb installation.
- E. Open-Tube Fluorescent Fixtures: Provide each open-tube fluorescent fixture with a wire guard and spring-loaded telescoping sockets or lamp retainers (two per lamp).

2.2 LAMPS

- A. Fluorescent lamps shall be the T-8 (one-inch diameter), instant-start type producing a minimum of 3000 initial lumens at 32 watts for a 4-foot lamp. Minimum CRI shall be 85, color temperature shall be 3500 degrees K, and all T-8 lamps shall be extended performance (XP) type with 24,000 hours life. Lamps shall be manufactured by Osram-Sylvania, or approved equal by GE or Philips.
- B. Mercury Vapor and Metal Halide Lamps: Provide with extinguishing mechanisms which prevent operation of lamps when outer globe is broken.

2.3 BALLASTS

- A. Electronic Ballasts:

1. Provide instant start parallel wired, solid-state fluorescent ballasts with power factor as indicated. Electromagnetic interference shall not be greater than that allowed by the FCL Regulations Part 18C, Class A. Ballasts shall be able to withstand voltage transients in accordance with IEEE C62.41, Category A, for normal and common nodes. Power factor shall not be less than 0.90. Ballasts shall operate at a frequency not less than 20,000 Hertz. THD content of ballast current shall be less than 20 percent, but not less than 10 percent. Ballasts shall have an average input wattage and ballast factor as follows when tested according to ANSI C82.2 methods:
    - a. 25 Watts or less: Minimum ballast factor = 0.78 when operating one F032 T-8 lamp.
    - b. 48 Watts or less: Minimum ballast factor = 0.78 when operating two F032 T-8 lamps.
    - c. 71 Watts or less: Minimum ballast factor = 0.78 when operating three F032 T-8 lamps.
    - d. 95 Watts or less: Minimum ballast factor = 0.78 when operating four F032 T-8 lamps.
  2. Ballasts shall be compatible for use with lamps furnished and shall be manufactured by Osram-Sylvania (OSI), or prior approved equal. All fluorescent fixtures in the project shall be equipped with ballasts by the *same* manufacturer.
- B. Ballasts for H.I.D. Fixtures: UL 1029 and ANSI C82.9, constant wattage autotransformer (CWA), high power factor type, unless otherwise indicated. Ballasts shall be designed to operate on the voltage system to which they are connected. Single lamp ballasts shall have a minimum starting temperature of -20 degrees F. Ballasts shall be designed for installation in a normal ambient temperature of 105 degrees F and shall be constructed so that open circuit operation will not reduce their average life. High Pressure Sodium (HPS) ballasts shall have a solid state ignitor/starter with an average life in the pulsing mode of 10,000 hours at an ignitor/starter case temperature of 75 degrees C. Average life is defined as the time after which 50% will have failed and 50% will have survived under normal conditions.
  - C. Ballasts mounted integrally with ceiling-recessed H.I.D. fixtures shall be accessible through the fixture opening without the Necessity of removing surrounding ceiling material.
  - D. Ballasts shall be provided to suit the voltage applied, regardless of whether fixture catalog numbers shown in drawings include designation of voltage or not.
  - E. Examine plans for switching schemes and provide ballast quantity and configuration as required for switching as indicated. Multi-level (stepped) lighting control shall be via step-dim ballasts or inboard/outboard switching unless otherwise noted.
- 2.4 TIME SWITCH
- A. 24-hour, 7-day type with astronomic dial arranged to turn "ON" at set hour, "OFF" at set hour, automatically changing the setting each day in accordance with seasonal changes of sunset and sunrise. The switch shall be provided with automatically wound spring mechanism to keep the switch on time for a minimum of 15 hours following failure of normal power and "skip-a-day" capability. The time switch shall be provided with a manual on-off by-pass switch. Housing for the time switch shall be surface or recess mounted, as indicated. Switch shall be as manufactured by Paragon, Tork, Intermatic or approved equal, rated 40 amperes with 4 poles. Drive motor rating shall suit voltage of circuits controlled or of voltage specified and switch contact rating shall suit voltage of circuits controlled.
- 2.5 EMERGENCY LIGHTING EQUIPMENT - UNIT BATTERY TYPE
- A. UL 924, NFPA 70, and NFPA 101. Lamps shall be tungsten halogen type having wattage and voltage as required for the application and having the accessories required for remote mounting where indicated.

- B. Emergency Lighting Units: Each unit shall have an automatic power failure device, test switch, pilot light, fully automatic high/low trickle charger, low voltage battery disconnect device, automatic overload protection and brown-out sensitive circuit to activate battery when AC input falls to 75% of normal voltage. Battery shall be sealed wet-cell type, shall operate unattended, and shall be maintenance-free for a period of not less than 10 years under normal operating conditions. Emergency lighting units shall be rated for 6 volts.

## 2.6 EMERGENCY LIGHTING EQUIPMENT - INTEGRAL-FIXTURE TYPE

- A. UL 924, NFPA 70 and NFPA 101. Units shall be integral with normal fluorescent fixtures as indicated, consisting of battery and electronics modules mounted in ballast compartment. Provide test switch, derangement signal light and connections for remote lamp on-off switch. Unit shall operate one or two lamp(s) of the fluorescent fixture indicated with at least 1100 lumens light output for a minimum of 1-1/2 hours. Charger shall be capable of recharging battery in a maximum of 16 hours. Estimated battery life shall be 7 years, minimum. Equipment shall be by IOTA, Bodine, Dual-Lite, or approved equal.

## 2.7 OUTDOOR

- A. Luminaires shall be weatherproof and shall be of multiple enclosed type for lamps with distribution as indicated. The luminaire shall permit easy access for lamp replacement. Glass refractors where specified shall be resistant to thermal shock. Electric discharge luminaires shall be provided with a high power factor ballast, regulating, to suit the lamp and circuit specified, and mounted integrally in the luminaire. Wiring of luminaires shall be internal and rated at 600 volts. Luminaire ballasts shall conform to UL 1029. Floodlights shall be of the enclosed type conforming to NEMA FA 1 and shall be Class HD, heavy duty, NEMA type and beam spreads as indicated.
- B. Brackets and Supports: Brackets and supports shall be steel or aluminum and conform to NEMA SH 7 or NEMA SH 5, as applicable, with mountings as indicated.

## PART 3 - EXECUTION

### 3.1 INTERIOR LIGHTING SYSTEMS

- A. Lighting fixtures and fixture assemblies shall be set plumb, square, level, and in alignment and shall be secured in accordance with manufacturers' directions, approved shop drawings and drawings accompanying these specifications. The installation shall meet with the requirements of NFPA 70. Mounting heights shall be as indicated. Recessed and semi-recessed fixtures shall be supported from rods or wires as indicated in drawings. Attach to the building structure. Support rods or wires for round fixtures or fixtures smaller in size than the ceiling grid shall be provided at a minimum of 2 rods or wires per fixture attached to the building structure or as indicated in drawings. Fixtures shall not be supported by acoustical ceiling panels. Where fixtures of sizes less than the ceiling grid are indicated to be centered in the acoustical panel, such fixtures shall be supported independently or with at least two 3/4-inch metal channels spanning and secured to the ceiling tees and also to the building structure. Secure all lay-in fixtures to grid by UL-approved clips or fasteners as approved by code jurisdiction having authority.
- B. Lighting fixtures shall not be used as raceways to serve other fixtures. Daisy-chain connection of fixtures will not be accepted. Fixture whips shall be no longer than 6'0" and shall connect from fixture to branch circuit junction box.

- C. Comply with all regulations and requirements of local jurisdiction and applicable building codes for seismic restraints. Provide all required supports, mounts, rods, safety chain/cable/wire, hardware and the like to suit seismic requirements for project site.

### 3.2 EXTERIOR LIGHTING SYSTEMS

- A. For underground circuits serving outdoor fixtures, cables shall be in accordance with the requirements of NFPA 70 and Section 16400. If paving is already in place, galvanized steel pipes shall be driven under it. Where conduit installed underground is indicated, the conduit shall be field coated with a coal tar base conforming to MIL-C-18480, per Section 16400, or Schedule 40 PVC conduit, as indicated. Non-current-carrying parts of outdoor lighting assemblies shall be grounded. The ground conductor shall be soft-drawn copper, having a current capacity of at least 20 percent of that of the largest conductor to which it is connected, but not smaller than No. 6 AWG and not smaller than indicated. Ground conductors shall be connected to a 3/4" x 10' copper-clad steel ground rod driven at least 11 feet into the ground approximately 3 feet out from the base of the pole. After installation is completed, top of the ground rod shall be approximately 1 foot below finished grade. All ground connections shall be made with direct-burial, solderless connectors or by the molded fusion-welding process.

END OF SECTION 16500

## SECTION 16570

### RELAY LIGHTING CONTROL SYSTEM

#### PART 1 - GENERAL

##### 1.1 RELATED DOCUMENTS

- A. The following apply to the work under this section:
  1. Section 16050, Electrical, General
  2. Section 16400, Interior Wiring Systems
  3. Section 16571, Occupancy Sensor Lighting Controls

##### 1.2 SCOPE

- A. Provide complete lighting control system, including relays, lighting automation panels, controllers, input devices, switches, and master on/off capability. Also provide all cable, conduit, connections, software, programming, testing and documentation for a complete and operating system.
- B. Carefully examine plans and provide required quantity of relays and devices.

##### 1.3 CODES AND STANDARDS

- A. The installed system and equipment shall comply with NFPA-70, NEMA Standards as applicable, ASHRAE 90.1, IBC Energy Code, UL 508 and UL 916 (Energy Management Equipment). Additionally, system components shall comply with FCC Emissions Standards under Part 15, Subpart J for Class A application.

##### 1.4 QUALITY ASSURANCE

- A. Manufacturers: Equipment shall be by firms regularly engaged in manufacture of lighting control equipment and ancillary equipment, of types and capacities required, whose products have been in satisfactory use in similar service for not less than 5 years.
- B. Component Pretesting: All components and assemblies shall be factory pretested and burned-in prior to installation.
- C. System Checkout: Factory-trained technicians shall be available to functionally test each component in system after installation to verify proper operation and confirm that panel wiring and addressing conform to wiring documentation.
- D. System Support: Factory applications engineers shall be available for on-site training and telephone support.

##### 1.5 SUBMITTALS

- A. Submit in accordance with Section 16050. The following are required:
  1. Product Data: Lighting control system and components.
  2. Shop Drawings: Dimensioned drawings of all lighting control system components, wiring and accessories.
  3. One-Line Diagram: One-line diagram of the system configuration proposed.
  4. Typical Wiring Diagrams: Typical wiring diagrams for all components including relay panels, relays, low voltage switches, line voltage switches, and programmable panel master switches.

5. Overall plan with actual locations of each relay panel, controller, keypad, interface, wiring and components. Plan shall be on same size media as design documents, shall be scalable and shall show all required work. Schematic diagrams only will not be accepted.

## PART 2 - PRODUCTS

### 2.1 MANUFACTURERS

- A. Control System: Leviton, Douglas, Wattstopper, Lutron, LC&D or Intelligent Lighting Controls, Inc.

### 2.2 SYSTEM DESCRIPTION

- A. The low-voltage switching system shall consist of preassembled relay panels, low-voltage switches, and their associated wiring.
- B. Low voltage switches shall be mounted in the spaces as indicated. Low-voltage wiring from the switches to the relay panel shall be in conduit. Each low-voltage wire shall be labeled with the relay number (1-48) at each switch. Use only properly color coded, stranded #20 AWG (or larger) wire. All relays and switches shall be tested after installation to confirm proper operation and the loads recorded on the directory card in each panel.
- C. Panels shall provide expansion slots for addition of automation cards. Cards shall be totally compatible with the manual operation of the low-voltage switches, and in the event of a card failure, these devices shall continue to operate to provide relay control.
- D. Controller shall be configured to "flash" relays serving loads prior to automatically turn lighting off, allowing time for occupants to manipulate manual override function. Time delay shall be as directed by owner, but no less than two minutes.
- E. Provide 15% spare relays, but no less than two (2) per cabinet, for future use.
- F. Coordinate with Owner prior to programming. Provide programming and scheduling in accordance with Owner requirements and allow for a minimum of two "sweeps" of relays after-hours. Allow for override as required for after-hours operation.
- G. Include outdoor photocell controller and input card as required for photocell control of lighting circuits.

### 2.3 HARDWARE FEATURES

- A. Relay panels shall consist of the following:
  1. Tub: NEMA 1 enclosure sized to accept interior with relay population as required.
  2. Relays: Tungsten, ballast and HID rated. Provide voltage, amperage and pole quantity to suit load served. All relays shall be minimum 20A rated. Relays shall include LED indicator light.
  3. Relays shall be of fail-safe design and shall fail to the ON position.
  4. Power Supply: Panels shall include an integral power supply serving all control modules, backplans, keypads, sensors and other accessories powered directly or indirectly from the relay panel.
  5. Barriers: Provide factory installed barriers for separation of different voltages and normal/emergency power sources.
  6. Control Module: Factory-installed integral with relay panel. Interface shall include LCD display and key pad to allow programming and status functions.
  7. Cover: Hinged, lockable configuration. Provide viewing window. A wiring-schedule directory card shall be affixed to the rear of this cover.

## PART 3 - EXECUTION

### 3.1 INSTALLATION

- A. The contractor shall be responsible for the installation and start-up of the equipment covered by this specification.
- B. Contractor is responsible for all settings and final programming.

### 3.2 RACEWAY SYSTEM

- A. Comply with requirements of Section 16400.

### 3.3 QUALITY CONTROL

- A. After installation of system and all associated electrical work, energize circuits and make all adjustments and test for compliance with requirements and manufacturer instructions.
- B. Verify proper operation of each lighting control device, sensor activation, override function, flash time delay and the like and ensure that all programming is in accordance with owner requirements.

### 3.4 TRAINING

- A. Provide four hours on-site training of owner's personnel in system operation, adjustment and maintenance. Training shall be manufacturer authorized technician or service provider at a time as directed by owner.

### 3.5 DOCUMENTATION AND RECORD DRAWINGS

- A. Drawings: Comply with requirements of Section 16050 and this section (submittals).

END OF SECTION 16570

## SECTION 16571

### OCCUPANCY SENSOR LIGHTING CONTROLS

#### PART 1 - GENERAL

##### 1.1 RELATED DOCUMENTS

- A. The following apply to the work under this section:
  - 1. Section 16050, Electrical, General
  - 2. Section 16400, Interior Wiring Systems
  - 3. Section 16570, Relay Lighting Control System

##### 1.2 SCOPE

- A. Provide complete a complete occupancy sensor lighting control system system, including power packs, relays, sensors (wall and ceiling type), override switches and related components. Also provide all cable, conduit, connections, programming, testing and documentation for a complete and operating system.
- B. Carefully examine plans and provide required quantity of power packs, relays, sensors and other required material for a complete and operable system.

##### 1.3 CODES AND STANDARDS

- A. The installed system and equipment shall comply with NFPA-70, NEMA Standards as applicable, ASHRAE 90.1, IBC Energy Code, UL 508 and UL 916 (Energy Management Equipment). Additionally, system components shall comply with FCC Emissions Standards under Part 15, Subpart J for Class A application.

##### 1.4 QUALITY ASSURANCE

- A. Manufacturers: Equipment shall be by firms regularly engaged in manufacture of lighting control equipment and ancillary equipment, of types and capacities required, whose products have been in satisfactory use in similar service for not less than 5 years.
- B. System Checkout: Factory-trained technicians shall be available to functionally test each component in system after installation to verify proper operation and confirm that the locations, aiming, settings, and wiring conform to manufacturer documentation.
- C. System Support: Factory applications engineers shall be available for on-site training and telephone support.

##### 1.5 SUBMITTALS

- A. Submit in accordance with Section 16050. The following are required:
  - 1. Product Data: Lighting control system and components.
  - 2. Shop Drawings: Dimensioned drawings of all lighting control system components, wiring and accessories.
  - 3. Lighting plan with actual locations of each sensor, including sensor type, model, mounting, orientation and aiming requirements.
  - 4. Typical Wiring Diagrams: Typical wiring diagrams for all components including power packs, relays, sensors and override switches. Include any interconnection diagrams as required for connection between components and with other control systems. Plan shall be on same size media as design documents, shall be scalable and shall show all required work. Schematic



diagrams only will not be accepted.

## PART 2 - PRODUCTS

### 2.1 MANUFACTURERS

- A. Occupancy Sensor System shall be by Leviton, Wattstopper, Sensor Switch, Novitas, Hubbell or approved equal.

### 2.2 SYSTEM DESCRIPTION

- A. Operation: Unless otherwise noted, turn lights on when coverage area is occupied and off when unoccupied. Integral time delay shall turn lights off after preset time, which shall be adjustable with a minimum 1-15 minute range. All controls in sleeping areas shall be configured for manual ON and automatic OFF (vacancy mode).
- B. Sensor relay unit shall consist of dry contacts with 20 ampere rating at 277 VAC unless noted otherwise. Relay shall be rated for load type served including tungsten, ballast, HID and motor loads.
- C. All sensors shall have integral LED indicator light, which shall illuminate when motion is detected during both testing and normal operating modes.
- D. All sensors shall be provided with manual bypass override switch. Override switches shall be wall mounted and may be integral with wall-mounted sensors.
- E. All sensors shall utilize Digital Signal Processing (DSP) to minimize false triggering and respond only to those signals caused by human motion.
- F. Sensitivity adjustment shall be provided for each type sensing technology in sensor.
- G. Controls shall be of fail-safe design and shall fail to the ON position.
- H. Interior Wall-Mounted Sensors
  - 1. Shall accommodate load served, with a minimum rating of 800 watts at 120 volts and 1200 watts at 277V. Provide with external power pack and relay modules where required.
  - 2. Shall be PIR type with the exception of toilet rooms, sleeping quarters and other areas with obstructions to the occupant's workspace, where sensor shall be dual-technology (PIR/Ultrasonic) type.
  - 3. Controls shall be recessed or covered to minimize tampering.
  - 4. Shall utilize multi-segmented fresnel lens for PIR.
- I. Interior Ceiling-Mounted Sensors
  - 1. Shall utilize power pack and relay modules as required for quantity of sensors and loads served.
  - 2. Shall be PIR type with the exception of toilet rooms and other areas with obstructions to the occupant's workspace, where sensor shall be dual-technology (PIR/Ultrasonic) type.
  - 3. Shall utilize multi-segmented fresnel lens for PIR.
- J. Outdoor Sensors
  - 1. UL 773A rated for raintight application.
  - 2. Rated operating temperature of -40°F to 130°F
  - 3. Automatic light-level sensor shall prevent operation during daylight hours.

- K. Power Packs
  - 1. 120 or 277 volt rated, to suit loads served.
  - 2. Plenum rated.
  - 3. Shall mount to or in junction box, dependant on local code.
  - 4. Shall control quantity of circuits as required for lighting loads served as well as for switching scheme indicated.
  - 5. Provide slave packs and relays as required for loads served.

## PART 3 - EXECUTION

### 3.1 INSTALLATION

- A. The contractor shall be responsible for the installation and start-up of the equipment covered by this specification.
- B. Plans are diagrammatic and only generally indicate rooms requiring coverage. Provide final quantity of sensors as required to achieve a minimum of 90% coverage unless higher coverage is required by local codes. Locate and aim sensors as required for complete and proper volumetric coverage of each area per the manufacturer's recommendations. Do not exceed coverage limits specified by manufacturer.
- C. Contractor is responsible for all settings. Set each device for proper sensitivity and time delay per the manufacturer's recommendations. Verify time delay settings with owner prior to adjustment.
- D. All ultrasonic detectors shall be located a minimum of six (6) feet from HVAC supply/return grills.

### 3.2 RACEWAY SYSTEM

- A. Comply with requirements of Section 16400.

### 3.3 QUALITY CONTROL

- A. After installation of sensors and all associated electrical work, energize circuits, make all adjustments and test for compliance with requirements and manufacturer instructions.
- B. Verify proper operation of each lighting control device, including sensor activation, override function, sensitivity and time delay.

### 3.4 DOCUMENTATION AND RECORD DRAWINGS

- A. Drawings: Comply with requirements of Section 16050 and this section (submittals).

### 3.5 TRAINING

- A. Provide two hours on-site training of owner's personnel in system operation, adjustment and maintenance. Training shall be by manufacturer authorized technician or service provider at a time as directed by owner.

END OF SECTION 16571

## SECTION 16680

### SURGE PROTECTION DEVICES

#### PART 1 - GENERAL

##### 1.1 RELATED DOCUMENTS

- A. The following apply to the work under this section:
  - 1. Section 16050, Electrical, General
  - 2. Section 16400, Interior Wiring Systems

##### 1.2 SCOPE

- A. Provide an operational Transient Voltage Surge Suppression System (TVSS) for protection of selected sections of facility's AC Distribution System utilizing Surge Protective Devices (SPDs).
- B. Provide all labor, materials and equipment as required for a complete and operational surge protection system.

##### 1.3 APPLICABLE CODES AND STANDARDS

- A. In addition to the codes and standards listed in Section 16050, the latest editions of the following codes and standards apply to this work:
  - 1. UL 1449, Third Edition; UL 1283, Fifth Edition
  - 2. ANSI/IEEE C62.41, C62.45, C62.62, C62.72 – Surge Protective Devices
  - 3. MIL-STD 220A - Electrical Line Noise Attenuation
  - 4. NFPA 70, Article 285 – Surge-Protective Devices (SPDs), 1kV or Less
  - 5. UL96A – Requirements for Master Label Certificates (Lightning Protection)
  - 6. IEEE 1100 (Emerald Book)

##### 1.4 WARRANTY

- A. Provide a minimum full five-year manufacturer's warranty against failure for each unit installed.

#### PART 2 - PRODUCTS

##### 2.1 MATERIALS/CONSTRUCTION

- A. SPDs shall be of solid state, hybrid, parallel circuit design; series elements will not be accepted.
- B. SPDs shall protect all modes: L-L, L-N, L-G (N-G where applicable).
- C. Service entrance SPDs shall incorporate hybrid 2-tier design utilizing metal oxide varistors and filter capacitors. Units shall contain modular, field replaceable surge devices and shall incorporate integral disconnection means and internal fusing to allow direct connection to switchgear bussing.
- D. Distribution and Branch Circuit SPDs shall incorporate hybrid 2-tier design utilizing metal oxide varistors and filter capacitors.
- E. Response time of all suppression components shall be equal to or less than one (1) nanosecond as measured with 6-inch lead length.

- F. The TVSS system shall provide a joule rating that meets or exceeds ANSI/IEEE C62.41 Category C requirements.
- G. SPDs shall have indicator status lights that monitor the operational status of the device.
- H. SPDs shall have a pulse life equal to or greater than 1,000 sequential ANSI/IEEE Category C waveforms. Submit certified test reports if requested by Engineer.
- I. The TVSS surge current capacity of each SPD shall be equal to or greater than:

		Phase	Mode
Service Entrance	120/240 v.	400K	200K
	120/208 v.	400K	200K
Distribution Panel	120/240 v.	200K	100K
	120/208 v.	200K	100K
Branch Circuit Panel	120/240 v.	100K	50K
	120/208 v.	100K	50K
Point of Use (120 v. outlet)		13K	26K

- J. The SPD suppression (clamping) voltage, in accordance with UL 1449, Third Edition, shall not exceed:

		L-L	L-N	L-G	N-G
Service Entrance	120/240 v.	1200	900	800	700
	120/208 v.	1200	900	800	700
Distribution Panel	120/240 v.	1000	700	700	800
	120/208 v.	1000	700	700	800
Branch Circuit Panel	120/240 v.	1000	700	700	800
	120/208 v.	1000	700	700	800
Point of Use (120 v. outlet)			400	400	400

- K. SPDs for Branch Circuit Panels shall incorporate sine wave tracking for electrical noise filtering.
- L. SPDs shall be stand alone type. SPDs integral to switchgear or panelboards are not permitted.
- M. SPD Short Circuit Current Rating (SCCR) shall exceed the available short circuit current at the point of attachment.
- N. SPD Devices shall meet UL Certification code VZCA and listed as Suitable for LPS or TVSS/Arrester as designated by UL.

## 2.2 MANUFACTURERS

- A. Current Technology, Thor Systems, LEA International or Liebert. No substitutions permitted.
- B. All SPD devices shall be from the same manufacturer.

## PART 3 - EXECUTION

### 3.1 INSTALLATION

- A. Provide TVSS units at panelboards, and outlets as indicated.
- B. Install strictly in accordance with manufacturer's recommendations. Wire lead length shall be equal to or less than manufacturer's recommended lengths and shall be kept as straight as possible.
- C. Provide overcurrent protection in current ratings and number of poles per manufacturer's instructions and in accordance with the National Electrical Code.

END OF SECTION 16680

## SECTION 16740

### STRUCTURED CABLING RACEWAY SYSTEM

#### PART 1 - GENERAL

##### 1.1 RELATED DOCUMENTS

- A. The following apply to the work under this section:
  - 1. Section 16050 Electrical, General
  - 2. Section 16400 Interior Wiring Systems

##### 1.2 SCOPE

- A. Provide, complete and ready to receive wires and cables by others, a raceway system for use with the Owner's communication systems, including:
  - 1. Security and access control system;
  - 2. Other systems as the Owner may elect to install in the future.
- B. The system shall include, but not be limited to, raceways, cable management systems, junction boxes, outlet boxes, devices and other accessories for Owner's systems.
- C. Coordinate all work with Owner, utility companies, and Owner's communications contractor for schedule, connection requirements (including service points) and all other requirements prior to bidding and provide all required electrical work in compliance with such schedules and requirements.
- D. All cables will be furnished and installed by the Owner. When installing raceways avoid sharp bends and provide conduit work as recommended for best performance under conditions of use. Use only long conduit sweeps and long bends in conduit installation. Obtain cable installation requirements from Owner and utilities prior to installation and comply.
- E. Leave pull wires (#10 AWG) or ropes (200-pound test nylon) in all conduits, identified with a cardboard tag as to location of outlet served by conduit.

#### PART 2 - PRODUCTS

##### 2.1 STRUCTURED CABLING SYSTEM

- A. Outlet Boxes: Standard type, as specified hereinbefore. Mount flush in finished walls at the heights indicated in details.
- B. Cover Plates:
  - 1. For all systems, provide blank coverplate to match receptacles and switch coverplates.
- C. Conduit Sizing: Unless otherwise indicated, conduit shall be a minimum of 3/4". Size conduits for risers to plywoods, cabinets, junction boxes, distribution centers, and service as indicated.
- D. Backboards: 3/4" thick, exterior grade plywood painted a light gray color with two coats of UL Listed intumescent paint and sized as shown in drawings. Where building codes require, provide fire-rated plywood.
- E. Terminal Cabinets: Construct of cold-rolled sheet steel. Match trim, hardware, doors, and finishes to panelboards.

- F. Grounding and Bonding Equipment:
  - 1. UL 467.
  - 2. Ground rods shall be copper-encased steel, with minimum diameter of 3/4" and total length of 10 feet.
  - 3. Provide copper grounding busbar at each plywood:
    - a. Busbar shall be Erico Eritech TGB Series or equal, minimum 1/4" thick x 2" high x 15" long.

### PART 3 - EXECUTION

#### 3.1 INSTALLATION

- A. Strap all conduits to plywood and provide bushings on all conduits.
- B. Provide a ground wire of AWG # 6 size in rigid conduit, from plywood to building steel or service entrance grounding conductor. Bond conduit and wire at both ends. Connect complete to ground busbar at each plywood.
- C. Raceways, boxes, fittings and cabinets shall be as specified in Section 16400.

END OF SECTION 16740