

FLORENCE COUNTY

SOUTH CAROLINA

INVITATION-TO-BID NO. 7-11/12

EXTERIOR STABILIZATION OF RED DOE PLANTATION
1132 FRANCIS MARION ROAD
FLORENCE, SC 29506

FUNDED BY SOUTH CAROLINA DEPARTMENT OF
TRANSPORTATION ENHANCEMENT GRANT

Architect:

Tony Gibson, AIA
121 S. Cashua Drive
Florence, SC 29501

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RED DOE EXTERIOR STABILIZATION

NOTE: This index is for convenience only. Its accuracy and completeness are not guaranteed, and it is not to be considered as part of the project manual. In the case of discrepancy between the index and the project manual, the project manual shall govern. **All specifications have not been included in the project manual. Many of the specifications and requirements have been included directly on the drawings.**

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**COUNTY OF FLORENCE, SOUTH CAROLINA
INVITATION FOR BID #7-11/12**

Written sealed bids for the exterior stabilization of Red Doe Plantation, 1132 Francis Marion Road, Florence, SC, will be opened by Florence County (hereinafter called the Owner) at 180 N. Irby Street, City-County Complex, Room B-5 Procurement Offices, Florence, South Carolina at 2:00 p.m., Thursday, November 10, 2011. At that time and place, sealed bids will be publicly opened and bids read aloud.

This exterior stabilization is being funded by a South Carolina Department of Transportation Enhancement Grant. This property is listed on the National Register of Historic Places October 29, 1982.

Mandatory Pre-Bid Conference: There will be a **MANDATORY** pre-bid conference held at the site, located at Red Doe Plantation, 1132 Francis Marion Road, Florence, SC 29501, 2:00 PM, Wednesday, October 19, 2011.

Bid documents and drawings may be obtained from Florence County Procurement at the address and phone number below. Drawings can be purchased for the non-refundable amount of \$10.

Sealed bids must be received by Florence County Procurement at the following address:

Florence County Procurement
City-County Complex, MSC-R
180 N. Irby Street; Room B-5
Florence, SC 29501
(843) 665-3018

Sealed bids must be received at the above address no later than the time and date indicated above and submitted in a sealed envelope and clearly marked as follows:

"Invitation-To-Bid #7-11/12 – "Exterior Stabilization of Red Doe Plantation"

Bid security is required with submission of a bid. Performance and payment bonds are required upon execution of the contract after award of the bid.

Sealed bids **MUST** be in the actual possession of the Florence County Procurement Department on or before the exact time and date indicated above. Bids received after the published time and date shall not be opened and shall be disqualified and returned unopened to sender.

Sealed bids submitted by mail and/or carrier must meet the same requirements as above and should be addressed to the same address listed above. Florence County shall not be responsible for late delivery of bids.

Each responder, by submission of a bid, agrees to each and every term and condition set forth within this Invitation-To-Bid and associated Project Documents, including any addendum that may be issued, and to be bound thereby.

All bids and supporting documents will be retained by Florence County for a period of one ninety (90) days from the date the bids are opened, and no bid shall be received, nor shall any responder be allowed to withdraw a bid after the opening hour commences.

ADVERTISED:

**MORNING NEWS
SUNDAY, October 9, 2011**

**SCBO
Tuesday, October 11, 2011**

AIA® Document A701™ – 1997

Instructions to Bidders

for the following PROJECT:

(Name and location or address)

Red Doe Exterior Stabilization
1132 Francis Marion Road, Florence, SC

THE OWNER:

(Name, legal status and address)

Florence County
180 North Irby Street MSC-R
Florence, SC 29501

THE ARCHITECT:

(Name, legal status and address)

Tony Gibson, AIA
121 South Cashua Drive
Florence, SC 29501

ADDITIONS AND DELETIONS:

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

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

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ARTICLE 1 DEFINITIONS

§ 1.1 Bidding Documents include the Bid Requirements and the proposed Contract Documents.

1.1.1 Bid Requirements consist of the Advertisement for Bid, AIA Document A701-1997, Instructions to Bidders, the Bid Form, and any Standard Supplemental Instructions to Bidders included in the Bidding Documents, and all Addenda issued prior to the receipt of Bids.

1.1.2 Contract Documents consist of the AIA Document A101-1997 *Standard Form of Agreement Between Owner and Contractor*, AIA Document A201-1997 *General Conditions of the Contract for Construction*, Additional Supplementary Conditions, the Scope of Work as indicated on the Plans and Specifications, the Contractor's Bid and Contract Modifications issued after execution of the Contract. All forms shall be referenced hereafter by the form number only. The Contract Documents shall govern the Work under all Divisions and Sections the same as if incorporated herein.

1.1.3 Contract Modifications may be one of the following:

1.1.3.1 A written amendment to the Contract signed by both parties.

1.1.3.2 A Change Order.

1.1.3.3 A Construction Change Directive

1.1.3.4 A written order for a minor change in the Work issued by the A/E.

§ 1.2 Definitions set forth in the General Conditions of the Contract for Construction, AIA Document A201, or in other Contract Documents are applicable to the Bidding Documents.

§ 1.3 Addenda are written or graphic instruments issued by the Architect prior to the execution of the Contract which modify or interpret the Bidding Documents by additions, deletions, clarifications or corrections.

§ 1.4 A Bid is a complete and properly executed proposal to do the Work for the sums stipulated therein, submitted in accordance with the Bidding Documents.

§ 1.5 The Base Bid is the sum stated in the Bid for which the Bidder offers to perform the Work described in the Bidding Documents as the base, to which Work may be added or from which Work may be deleted for sums stated in Alternate Bids.

§ 1.6 An Alternate Bid (or Alternate) is an amount stated in the Bid to be added to or deducted from the amount of the Base Bid if the corresponding change in the Work, as described in the Bidding Documents, is accepted.

§ 1.7 A Unit Price is an amount stated in the Bid as a price per unit of measurement for materials, equipment or services or a portion of the Work as described in the Bidding Documents.

§ 1.8 Bidder is a person or entity who submits a Bid to the Owner.

§ 1.9 A Sub-bidder is a person or entity who submits a bid to a Bidder for materials, equipment or labor for a portion of the Work.

1.10 Architect/Engineer (A/E) – A person or firm who performs professional services associated with the practice of architecture, professional engineering, land surveying, landscape architecture, and interior design pertaining to construction, as defined by the SC Code of Laws, as well as incidental services that members of these professions and those in their employ may logically or justifiably perform, including studies, investigations, surveys, evaluations, consultations, planning, programming, conceptual designs, plans and specifications, cost estimates, inspections, shop drawing reviews, sample recommendations, preparation of operating and maintenance manuals and other related services. In the absence of an A/E, the Owner assumes the role of the A/E.

1.11 Whenever the word "Architect" or "A/E" appears in the INSTRUCTIONS TO BIDDERS and herein, the intent is the design professional with whom the Owner has a contractual agreement.

1.12 Whenever the word "Owner" appears in the INSTRUCTIONS TO BIDDERS and herein, the intent is the Owner with whom the Successful Bidder will have a contractual agreement.

1.13 Whenever the phrase "in the form of" or similar appears in the Contract Documents, that phrase shall be taken to permit the use of alternative forms, provided all information required by the referenced form is submitted in a format acceptable, in their sole discretion, to the Owner. Where the Bidder or Contractor is directed to use a specific form, that form shall be used without exception.

ARTICLE 2 BIDDER'S REPRESENTATIONS

§ 2.1 The Bidder by making a Bid represents that:

§ 2.1.1 The Bidder has read and understands the Bidding Documents or Contract Documents, to the extent that such documentation relates to the Work for which the Bid is submitted, and for other portions of the Project, if any, being bid concurrently or presently under construction.

§ 2.1.2 The Bid is made in compliance with the Bidding Documents.

§ 2.1.3 The Bidder has visited the site, become familiar with local conditions under which the Work is to be performed, has correlated the Bidder's personal observations with the requirements of the proposed Contract Documents and has accepted full responsibility for any pre-bid existing conditions that would affect the Bid that were obvious and could have been ascertained by a site visit.

§ 2.1.4 The Bid is based upon the materials, equipment and systems required by the Bidding Documents without exception.

2.1.5 The workplace will be maintained drug-free in accordance with Title 44, Chapter 107 of the SC Code of Laws, as amended.

2.2 If a Mandatory Pre-Bid Conference is specified in the Advertisement for Bids, then:

2.2.1 Prospective Bidders are required to be represented at a Mandatory Pre-Bid Conference, at the specified time, date and place;

2.2.2 Only those prospective Bidders that are represented and are listed on the sign-in sheet will be allowed to submit Bids on the Work;

2.2.3 When it is in the best interest of the Owner, the Owner shall have the right to schedule more than one Mandatory Pre-Bid Conference. All prospective Bidders shall be represented and listed on the sign-in sheet of at least one Mandatory Pre-Bid Conference to be eligible to bid the Work.

2.3 If the Owner has scheduled only one Mandatory Pre-Bid Conference and only one prospective Bidder is represented at the Conference, then either:

2.3.1 The Pre-Bid Conference will be cancelled and rescheduled for a later date to be advertised in the *South Carolina Business Opportunities (SCBO)* or;

2.3.2 An additional Mandatory Pre-Bid Conference will be scheduled at a later date to be advertised in *SCBO* and which must be attended by at least one additional prospective Bidder; or

2.3.3 A non-mandatory Pre-Bid Conference will be scheduled at a later date as advertised in *SCBO*; or

2.3.4 The project will be re-advertised in *SCBO* for open bidding under the conditions specified in the new advertisement.

2.4 The A/E will publish, prior to the Bid opening, an Addendum to the Contract Documents listing, the prospective Bidders that were represented and signed-in at the Mandatory Pre-Bid Conference(s).

ARTICLE 3 BIDDING DOCUMENTS

§ 3.1 COPIES

§ 3.1.1 Bidders may obtain complete sets of the Bidding Documents from the issuing office designated in the Advertisement or Invitation to Bid for the sum stated therein.

§ 3.1.2 If the deposit is listed as refundable on the Advertisement to Bid, then:

3.1.2.1 The deposit will be refunded to all plan holders that return the Bidding Documents in good condition within ten (10) days; or

3.1.2.2 The cost of replacement of missing or damaged documents will be deducted from the deposit; and

3.1.2.3 A Bidder receiving a Contract Award may retain the Bidding Documents and the Bidder's deposit will be refunded.

§ 3.1.3 Bidders and sub-bidders shall use complete sets of Bidding Documents in preparing Bids or sub-Bids; neither the Owner nor A/E assumes responsibility for errors or misinterpretations resulting from the use of incomplete sets of Bidding Documents. Partial sets of Bidding Documents will not be issued.

§ 3.1.4 The Owner and Architect have made copies of the Bidding Documents available on the above terms for the purpose of obtaining Bids on the Work. No license or grant of use is conferred by issuance of copies of the Bidding Documents.

§ 3.2 INTERPRETATION OR CORRECTION OF BIDDING DOCUMENTS

§ 3.2.1 The Bidder and each sub-Bidder shall carefully study and compare the Bidding Documents with each other, and with other work being bid concurrently or presently under construction to the extent that it relates to the Work for which the Bid or sub-Bid is submitted. The Bidder and each sub-Bidder shall examine the site and local conditions, such as, but not limited to, location, accessibility, general character of the site or building and the extent of existing work within or adjacent to the site, and shall incorporate the impact, if any, of such conditions into the Bid submitted.

§ 3.2.2 Bidders and Sub-bidders requiring clarification or interpretation of the Bidding Documents shall make a written request which shall reach the Architect at least ten (10) days prior to the date for receipt of Bids. No oral interpretations in regard to the meaning of Plans and Specifications will be made and no oral instructions will be given prior to the award of the Contract.

§ 3.2.3 Interpretations, corrections and changes of the Bidding Documents will be made by Addendum. Interpretations, corrections and changes of the Bidding Documents made in any other manner will not be binding, and Bidders shall not rely upon them.

§ 3.3 SUBSTITUTIONS

§ 3.3.1 The materials, products and equipment described in the Bidding Documents establish a standard of required function, dimension, appearance and quality to be met by any proposed substitution. Reference in the Bidding Documents to 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.

§ 3.3.2 No substitution 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. 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.

§ 3.3.3 If the Architect approves a proposed substitution prior to receipt of Bids, such approval will be set forth in an Addendum. Bidders shall not rely upon approvals made in any other manner.

§ 3.3.4 No substitutions during construction for specified items shall be allowed unless they are recommended by the A/E and approved by the Owner.

§ 3.4 ADDENDA

§ 3.4.1 Addenda will be transmitted to all who are known by the issuing office to have received a complete set of Bidding Documents.

§ 3.4.2 Copies of Addenda will be made available for inspection wherever Bidding Documents are on file for that purpose.

§ 3.4.3 No Addenda will be issued later than the fifth (5th) calendar day prior to the date set for receipt of Bids, except to:

- 3.4.3.1 withdraw the request or Bids, or;
- 3.4.3.2 postpone the date for receipt of the Bids.

§ 3.4.4 Each Bidder shall ascertain prior to submitting a Bid that the Bidder has received all Addenda issued, and the Bidder shall acknowledge their receipt in the Bid.

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, prospective Bidders shall be notified by telephone, fax, or other appropriate means with immediate follow up with a written Addendum. This Addendum shall verify the postponement of the original Bid Date and establish a new Bid Date. The new Bid Date shall 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 Bid Forms wherein the Bidder fails to acknowledge all issued Addenda by number shall be rejected as non-responsive, except for the following:

- 3.4.6.1 The Addendum only gives clarification or lists attendees at a Mandatory Pre-Bid Conference; or,
- 3.4.6.2 The Bid received clearly indicates that the Bidder received the Addendum, such as where the Addendum added another item to the Invitation for Construction Bids and the Bidder submitted a Bid thereon; or
- 3.4.6.3 The Addendum clearly would have had no effect or merely a trivial or negligible effect on price, quality, quantity, or delivery, and does not affect the relative standing of the Bidders. Under no circumstances can the Bid Amount be changed or modified.

(1) Trivial or Negligible Effect shall be defined as an increase in the Base Bid amount of the apparent low bidder, not to exceed one percent (1%) of the Base Bid amount. There shall be no percentage limitation if the Addendum decreases the cost of the Work. The cost of the Addendum shall be determined by the A/E or by the Agency's procurement officer.

(2) Relative Standing of the Bidders shall mean that the order of the Bidders would be the same regardless of the Addendum. If the estimated cost of the Addendum (regardless of the percent of increase) exceeds the difference between the Bids of the apparent low bidder and the second-low bidder, then the Bid of the apparent low bidder shall be rejected as non-responsive.

ARTICLE 4 BIDDING PROCEDURES

§ 4.1 PREPARATION OF BIDS

§ 4.1.1 Bids shall be submitted on the Bid Form included with the Bidding Documents, or on true copies thereof, and signed in ink or other indelible media. The Bidder shall make no stipulations or qualify its Bid in any manner not permitted on the Bid Form.

§ 4.1.2 All blanks on the bid form shall be legibly executed in a non-erasable medium.

§ 4.1.3 Sums shall be expressed in both words and figures. In case of discrepancy, the amount written in words shall govern.

(Paragraph deleted)

§ 4.1.5 All requested Alternates must be bid.

4.1.5.1 Indicate either a dollar amount or the words "zero" or "No Change".

4.1.5.2 Indicate "ADD To" or "Deduct From" for each Alternate.

§ 4.1.6

4.1.8 Unsigned Bids shall be rejected, provided however, that an unsigned Bid shall not be rejected when it is accompanied by a properly prepared Bid Security or by other material indicating the Bidder's intention to be

bound by the unsigned document, such as the submission of a Bid Guarantee with the Bid or a letter with the Bid signed by the Bidder, referring to and identifying the Bid itself.

4.1.9 Subcontractor(s) listed on the Bid Form to perform Alternate Work may be used for both the Alternate and Base Bid Work, if the Alternate is accepted.

(Paragraph deleted)

§ 4.2 BID SECURITY

§ 4.2.1 If required as stated in the Advertisement for Bid, each Bid shall be accompanied by Bid Security in the dollar amount, if any, listed on the Advertisement for Bid, or in an amount of not less than five (5) percent of the Base Bid. The Bid Security shall be:

- 4.2.1.1 Written on the Bid Bond and made payable to the Owner, or
- 4.2.1.2 An electronic Bid Bond authorization number issued by a firm or organization authorized by the surety to receive, authenticate and issue binding electronic Bid Bonds on behalf the surety; or
- 4.2.1.3 In the form of a certified cashier's check.

§ 4.2.2 By providing an electronic bid bond authorization code and signing the Bid Form, the Bidder is certifying 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 of the Bid Bond provided in the Bidding Documents.

§ 4.2.3 To be acceptable, a Bid Bond shall:

- 4.2.3.1 Be issued by a surety company licensed to do business in South Carolina;
- 4.2.3.2 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". 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.
- 4.2.3.3 Be accompanied by a certified and current power of attorney by the attorney-in-fact who executes the bond on the behalf of the surety company; and,
- 4.2.3.4 Be enclosed in the bid envelope at the time of Bid Opening, either in paper copy or as a Bid Bond authorization number provided on the Bid Form.

4.2.4 By providing Bid Security, the Bidder pledges to enter into a Contract with the Owner on the terms stated in the Bidding Documents and will, if required, furnish bonds converging the faithful performance of the Contract and payment of all obligations arising thereunder. The Bidder shall forfeit to the Owner as liquidated damages the amount of the Bid Security if the Bidder fails to:

- 4.2.4.1 Correct any Bid deficiency as required by the Bidding Documents and allowed by law, or
- 4.2.4.2 Enter into such Contract; and
- 4.2.4.3 Furnish such bonds, if required.

4.2.5 The Owner shall have the right to retain the Bid Security of any or all bidders until such time as one of the three conditions listed below has been met.

- 4.2.5.1 The Contract for Construction has been executed and both Labor and Material Payment and Performance Bonds, if required, have been furnished; or,
- 4.2.5.2 The specified time has elapsed so that Bids may be withdrawn; or,
- 4.2.5.3 The Owner has rejected all Bids.

4.2.6 Bidders submitting a Bid Security not meeting the required amount, surety rating or financial strength rating shall have one working day from the Bid Opening to cure the deficiency or the Bid shall be considered non-responsive. The Bid Security amount submitted with the Bid must be at least 80% of the required amount to be eligible for correction.

§ 4.3 SUBMISSION OF BIDS

§ 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 Bid Envelope should be addressed to the party receiving the Bids and 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.

§ 4.3.2 Bids shall be deposited at the designated location prior to the time and date for receipt of Bids. Bids received after the time and date for receipt of Bids will be returned unopened.

§ 4.3.3 The Bidder shall assume full responsibility for timely delivery at the location designated for receipt of Bids.

4.3.3.1 Bidders attending the Bid Opening should bring Bids to the place of the Bid Opening as shown in the Advertisement to Bid. The Bids should be given to the procurement officer of the Owner or his designee prior to the time of the Bid Opening.

4.3.3.2 Bids sent by mail or special delivery service (UPS, Federal Express, etc.) should be labeled "SEALED BID ENCLOSED" and shall be addressed to the Owner designated purchasing office as shown in the Advertisement to Bid. Delivery of Bids to the above location shall be prior to the time of Bid Opening. Bids not received at the above location prior to the time of Bid Opening will be rejected.

§ 4.3.4 Oral, telephonic, telegraphic, facsimile or other electronically transmitted bids will not be considered.

4.3.5 Any other or special documents requested of the Bidder in these Bidding Documents shall be included in the Bid Envelope. If they are not included with the Bid Envelope, the Bidder shall have twenty four (24) hours from the time of the Bid Opening to provide these documents or its Bid shall be considered non-responsive.

4.3.6 The official time for receipt of Bids shall be determined by reference to the clock designated by the Owner or his designee. The procurement officer conducting the Bid Opening shall 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 shall be considered timely, whether or not the bid envelope has been date/time stamped or otherwise marked by the procurement officer.

§ 4.4 MODIFICATION OR WITHDRAWAL OF BID

§ 4.4.1 A Bid may not be modified, withdrawn or canceled by the Bidder during the stipulated time period following the time and date designated for the receipt of Bids, and each Bidder so agrees in submitting a Bid.

§ 4.4.2 Prior to the time and date designated for receipt of Bids, a Bid submitted may be modified or withdrawn by notice to the party receiving Bids at the place designated for receipt of Bids. Such modification shall be in writing on the Bid Form contained in the Bidding Documents or a true copy thereof, and over the signature of the Bidder.

§ 4.4.3 Withdrawn Bids may be resubmitted up to the date and time designated for the receipt of Bids provided that they are then fully in conformance with these Instructions to Bidders.

§ 4.4.4 Bid security, if required, shall be in an amount sufficient for the Bid as resubmitted.

ARTICLE 5 CONSIDERATION OF BIDS

§ 5.1 COMPLIANCE WITH REQUIREMENTS. To be considered, Bids shall be made in accordance with these Instructions to Bidders. Failure to comply with these bidding requirements may cause a bid to be rejected.

§ 5.2 OPENING OF BIDS 5.2.1 Bids received on time will be opened publicly and read aloud. Bids that are determined, at the time of opening, to be non-responsive shall not be read. If all Bids are to be rejected, the Owner shall announce the reason(s) therefore.

5.2.2 The date and location of the posting of the Notice of Intent to Award as listed in Article 9 of this document will be announced.

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

5.2.4 If the Project is to be awarded, the Owner shall send a copy of the Notice of Intent to Award to all Bidders after posting.

5.2.5 If only one Bid is received, the Bid shall be opened and considered.

§ 5.3 REJECTION OF BIDS.

§ 5.3.1 The Agency shall have the right to reject any and all bids, reject a Bid not accompanied by a required Bid Security or by other data required by the Bidding Documents, or reject a Bid which is in any way incomplete or irregular.

§ 5.3.2 Bids shall be rejected for any of the following reasons, which include, but are not limited to:

- 5.3.2.1 Failure by a Bidder to be represented at a Mandatory Pre-Bid Conference or site visit; or
- 5.3.2.2 Failure to deliver the Bid on time; or
- 5.3.2.3 Failure to comply with Bid Security Requirements, except as allowed herein; or
- 5.3.2.4 Listing an invalid electronic bid bond authorization number on the bid form; or
- 5.3.2.5 Failure to bid an Alternate; or
- 5.3.2.6 Failure to list qualified Subcontractors as required by law, or
- 5.3.2.7 Showing any modification(s) or exception(s) qualifying the Bid; or
- 5.3.2.8 Faxing a Bid directly to the Owner or their representative; or
- 5.3.2.9 Failure to include in the Bid Envelope all items required by the Bidding Documents; or
- 5.3.2.10 Failure to include a properly executed Power of Attorney with the bid bond.

5.3.3 Bids shall not be rejected for the following reasons, which include, but are not limited to:

- 5.3.3.1 Failure to write "Sealed Bid Enclosed" on the outside of the mailing envelope; or
- 5.3.3.2 Failure to seal the Bid envelope; or
- 5.3.3.3 Listing a modification to the Bid on the outside of the Bid envelope, provided however that such modification will not be considered; or
- 5.3.3.4 Failure to list any information on the envelope other than that which may be required by law or
- 5.3.3.5 Providing a fax copy or other reproduction of any or all Bidding Documents in the Bid envelope; or
- 5.3.3.6 Failure to indicate "Add to" or Deduct From" on an alternate, but only when the adjustment is obvious or
- 5.3.3.7 Failure to provide an Incremental Price or a Unit Price when requested on the bid Form; or
- 5.3.3.8 Providing additional listings of "Subcontractor Specialty" beyond those listed on the Bid Form; or
- 5.3.3.9 Failure of the Bidder to sign the Bid, provided it is accompanied by a properly prepared Bid Security or other information, as required by this Section; or
- 5.3.3.10 Providing a reproduction of a signature on any or all Bidding Documents; or
- 5.3.3.11 Failure of the corporation to include its seal on the Bid; or
- 5.3.3.12 Bid bond not signed by the bidder by only if the bond has been properly executed and signed by the bonding company or agent;
- 5.3.3.13 Immaterial variation from the exact requirements of the Bidding Documents.

5.3.4 Bidders shall have one (1) working day from the time of Bid opening to correct the following deficiencies:

- 5.3.4.1 Failure to provide five percent (5%) Bid Security when required, provided that the Bidder did furnish Bid Security in the proper form equal to at least eighty (80%) percent of that required in the Advertisement to Bid. and
- 5.3.4.2 Failure to provide a Bid bond with the proper surety rating and financial strength provided that the Bidder did furnish Bid Security in the proper form equal to at least eighty (80) percent of that required in the Advertisement to Bid.

5.4 ACCEPTANCE OF BID (AWARD)

5.4.1 INTENT TO AWARD. It is the intent of the Owner to award a Contract to the lowest evaluated responsive bid submitted by a responsible Bidder. The Owner reserves the right to conduct discussions with apparent responsive bidders for the purpose of clarification to assure full understanding of the requirements of the Invitation to Bid.

5.4.2 The bid shall be awarded by the combination of the base bid plus all alternates.

5.4.3 REJECTION OF BIDS. The Owner shall have the right to reject all Bids; to reject Unit Prices proposed in a Bid without invalidating other portions of the Bid. Failure by the Bidder to correct any deficiency as requested may cause the Bid to be rejected as non-responsive.

5.4.4 CONTRACT EXECUTION. The Owner shall not enter into a Contract in excess of \$50,000 to the lowest responsible and responsive Bidder before the eleventh (11th) day after the Notice of Intent to Award is posted. If only one bid is received and determined to be both responsive and responsible, award may be made and the contract executed after posting the Notice of Intent to Award without the ten day waiting period.

ARTICLE 6 CONTRACTOR'S QUALIFICATIONS

6.1 STANDARDS OF RESPONSIBILITY. A prospective Contractor shall be considered as meeting the State's standards of responsibility when the firm has:

- 6.1.1 Appropriate financial, material, equipment, facility and personnel resources and expertise, or the ability to obtain them, necessary to indicate its capability to meet all contractual requirements; and
- 6.1.2 A satisfactory record of performance; and
- 6.1.3 A satisfactory record of integrity; and
- 6.1.4 Is qualified legally to contract with the County;
- 6.1.5 Has supplied all necessary information in connection with the inquiry concerning responsibility.

6.2 ADDITIONAL INFORMATION. Each Bidder submitting a Bid shall, upon request, submit a Contractor's Statement of Qualifications in the form specified by the Agency and all additional information as required by the Agency to support the Agency's evaluation of the responsibility of the Bidder.

6.2.1 Each Bidder, by submitting a Bid, agrees to waive any claim it has or may have against the State, the Owner, the A/E and their respective employees arising out of or in connection with the administration, evaluation or recommendation of any bid.

(Paragraphs deleted)

ARTICLE 7 PERFORMANCE BOND AND PAYMENT BOND

§ 7.1 BOND REQUIREMENTS

§ 7.1.1 When required by the Invitation for Bids, the Contractor shall provide and pay the cost of Performance and Labor and Material Payment Bonds .

7.2 TIME OF DELIVERY

7.2.1 When bonds are required by the Invitation for Bids, the Contractor shall have a maximum of twenty-one (21) days from the date of posting of the Notice of Intent to Award, to deliver the Performance and Labor and Material Payment Bonds, Certificate of Insurance and the Contract (signed by Contractor only). Failure to deliver these documents as required shall entitle the Owner to consider the Bidder non-responsive and to declare the Bid Security forfeited.

(Paragraphs deleted)

ARTICLE 8 FORM OF AGREEMENT BETWEEN OWNER AND CONTRACTOR

Unless otherwise required in the Bidding Documents, the Agreement for the Work will be written on AIA Document A101, Standard Form of Agreement Between Owner and Contractor Where the Basis of Payment Is a Stipulated Sum.

ARTICLE 9 PROJECT INFORMATION

9.1 PROJECT NAME: RED DOE EXTERIOR STABILIZATION

PROJECT NUMBER: 37630-OT-01

PROJECT LOCATION: 1132 FRANCIS MARION ROAD, FLORENCE, SC

9.2 Bids sent by mail or special delivery service (UPS, FedEx, etc.) should be labeled "SEALED BID ENCLOSED" and shall be addressed to the Owner's designated procurement office as follows:

Name of Owner: FLORENCE COUNTY

Designated Procurement Office: Florence County Procurement Office

Office Address: 180 North Irby Street, MSC-G, Room B-5, Florence, SC 29501

Agency Representative: Angelia Jackson, Procurement Specialist II

Contact Information: 843-665-3018 phone 843-664-9668 fax ajackson@florenceco.org

Special Documents Required for this project are as follows:

9.3 The Notice of Intent to Award, will be posted at the following time and location:

Room or Area of Posting: Procurement Office, Room B-5

Building Where Posted: City County Complex

Address of Building: 180 North Irby Street

Date of Posting: TBD

9.4 Other special conditions of the Work, are listed below, or attached as referenced.

1. See Article 3.104 and 3.105 of 00811-Standard Supplemental Conditions Modifying Article 11.4 of AIA Document A201, 1997 Edition, requiring the contractor to provide the builder's risk insurance on the project.
2. Contractor shall comply with the attached "Certification Regarding Illegal Immigration".

Additions and Deletions Report for AIA® Document A701™ – 1997

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

Note: This Additions and Deletions Report is provided for information purposes only and is not incorporated into or constitute any part of the associated AIA document. This Additions and Deletions Report and its associated document were generated simultaneously by AIA software at 10:51:51 on 08/15/2011.

PAGE 1

Red Doe Exterior Stabilization
1132 Francis Marion Road, Florence, SC

...

(Name, legal status and address)
Florence County
180 North Irby Street MSC-R
Florence, SC 29501

...

(Name, legal status and address)
Tony Gibson, AIA
121 South Cashua Drive
Florence, SC 29501

PAGE 2

§ 1.1 Bidding Documents include the ~~Bidding-Bid Requirements~~ and the proposed Contract Documents. ~~The Bidding Requirements consist of the Advertisement or Invitation to Bid, Instructions to Bidders, Supplementary Instructions to Bidders, the bid form, 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 and all Addenda issued prior to execution of the Contract.~~

1.1.1 Bid Requirements consist of the Advertisement for Bid, AIA Document A701-1997, Instructions to Bidders, the Bid Form, and any Standard Supplemental Instructions to Bidders included in the Bidding Documents, and all Addenda issued prior to the receipt of Bids.

1.1.2 Contract Documents consist of the AIA Document A101-1997 *Standard Form of Agreement Between Owner and Contractor*, AIA Document A201-1997 *General Conditions of the Contract for Construction*, Additional Supplementary Conditions, the Scope of Work as indicated on the Plans and Specifications, the Contractor's Bid and Contract Modifications issued after execution of the Contract. All forms shall be referenced hereafter by the form number only. The Contract Documents shall govern the Work under all Divisions and Sections the same as if incorporated herein.

1.1.3 Contract Modifications may be one of the following:

1.1.3.1 A written amendment to the Contract signed by both parties.

1.1.3.2 A Change Order.

1.1.3.3 A Construction Change Directive

1.1.3.4 A written order for a minor change in the Work issued by the A/E.

...

§ 1.8 A Bidder is a person or entity who submits a Bid and who meets the requirements set forth in the Bidding Documents to the Owner.

...

1.10 Architect/Engineer (A/E) – A person or firm who performs professional services associated with the practice of architecture, professional engineering, land surveying, landscape architecture, and interior design pertaining to construction, as defined by the SC Code of Laws, as well as incidental services that members of these professions and those in their employ may logically or justifiably perform, including studies, investigations, surveys, evaluations, consultations, planning, programming, conceptual designs, plans and specifications, cost estimates, inspections, shop drawing reviews, sample recommendations, preparation of operating and maintenance manuals and other related services. In the absence of an A/E, the Owner assumes the role of the A/E.

1.11 Whenever the word "Architect" or "A/E" appears in the INSTRUCTIONS TO BIDDERS and herein, the intent is the design professional with whom the Owner has a contractual agreement.

1.12 Whenever the word "Owner" appears in the INSTRUCTIONS TO BIDDERS and herein, the intent is the Owner with whom the Successful Bidder will have a contractual agreement.

1.13 Whenever the phrase "in the form of" or similar appears in the Contract Documents, that phrase shall be taken to permit the use of alternative forms, provided all information required by the referenced form is submitted in a format acceptable, in their sole discretion, to the Owner. Where the Bidder or Contractor is directed to use a specific form, that form shall be used without exception.

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§ 2.1.3 The Bidder has visited the site, become familiar with local conditions under which the Work is to be performed and performed, has correlated the Bidder's personal observations with the requirements of the proposed Contract Documents and has accepted full responsibility for any pre-bid existing conditions that would affect the Bid that were obvious and could have been ascertained by a site visit.

...

2.1.5 The workplace will be maintained drug-free in accordance with Title 44, Chapter 107 of the SC Code of Laws, as amended.

2.2 If a Mandatory Pre-Bid Conference is specified in the Advertisement for Bids, then:

2.2.1 Prospective Bidders are required to be represented at a Mandatory Pre-Bid Conference, at the specified time, date and place;

2.2.2 Only those prospective Bidders that are represented and are listed on the sign-in sheet will be allowed to submit Bids on the Work;

2.2.3 When it is in the best interest of the Owner, the Owner shall have the right to schedule more than one Mandatory Pre-Bid Conference. All prospective Bidders shall be represented and listed on the sign-in sheet of at least one Mandatory Pre-Bid Conference to be eligible to bid the Work.

2.3 If the Owner has scheduled only one Mandatory Pre-Bid Conference and only one prospective Bidder is represented at the Conference, then either:

2.3.1 The Pre-Bid Conference will be cancelled and rescheduled for a later date to be advertised in the *South Carolina Business Opportunities (SCBO)* or;

2.3.2 An additional Mandatory Pre-Bid Conference will be scheduled at a later date to be advertised in *SCBO* and which must be attended by at least one additional prospective Bidder; or

2.3.3 A non-mandatory Pre-Bid Conference will be scheduled at a later date as advertised in *SCBO*; or

2.3.4 The project will be re-advertised in SCBO for open bidding under the conditions specified in the new advertisement.

2.4 The A/E will publish, prior to the Bid opening, an Addendum to the Contract Documents listing the prospective Bidders that were represented and signed-in at the Mandatory Pre-Bid Conference(s).

...

§ 3.1.1 Bidders may obtain complete sets of the Bidding Documents from the issuing office designated in the Advertisement or Invitation to Bid in the number and for the deposit sum, if any, stated therein. The deposit will be refunded to Bidders who submit a bona fide Bid and 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 for the sum stated therein.

§ 3.1.2 Bidding Documents will not be issued directly to Sub-bidders unless specifically offered in the Advertisement or Invitation to Bid, or in supplementary instructions to bidders. If the deposit is listed as refundable on the Advertisement to Bid, then:

3.1.2.1 The deposit will be refunded to all plan holders that return the Bidding Documents in good condition within ten (10) days; or

3.1.2.2 The cost of replacement of missing or damaged documents will be deducted from the deposit; and

3.1.2.3 A Bidder receiving a Contract Award may retain the Bidding Documents and the Bidder's deposit will be refunded.

§ 3.1.3 Bidders and sub-bidders shall use complete sets of Bidding Documents in preparing Bids; Bids or sub-Bids; neither the Owner nor Architect-A/E assumes responsibility for errors or misinterpretations misinterpretations resulting from the use of incomplete sets of Bidding Documents. Partial sets of Bidding Documents will not be issued.

§ 3.1.4 The Owner and Architect may make have made copies of the Bidding Documents available on the above terms for the purpose of obtaining Bids on the Work. No license or grant of use is conferred by issuance of copies of the Bidding Documents.

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§ 3.2.1 The Bidder and each sub-Bidder shall carefully study and compare the Bidding Documents with each other, and with other work being bid concurrently or presently under construction to the extent that it relates to the Work for which the Bid is submitted, or sub-Bid is submitted. The Bidder and each sub-Bidder shall examine the site and local conditions, and shall at once report to the Architect errors, inconsistencies or ambiguities discovered such as, but not limited to, location, accessibility, general character of the site or building and the extent of existing work within or adjacent to the site, and shall incorporate the impact, if any, of such conditions into the Bid submitted.

§ 3.2.2 Bidders and Sub-bidders requiring clarification or interpretation of the Bidding Documents shall make a written request which shall reach the Architect at least seven ten (10) days prior to the date for receipt of Bids. No oral interpretations in regard to the meaning of Plans and Specifications will be made and no oral instructions will be given prior to the award of the Contract.

...

§ 3.3.1 The materials, products and equipment described in the Bidding Documents establish a standard of required function, dimension, appearance and quality to be met by any proposed substitution. Reference in the Bidding Documents to 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.

...

~~§ 3.3.4 No substitutions will be considered after the Contract award unless specifically provided for in the Contract Documents.~~
during construction for specified items shall be allowed unless they are recommended by the A/E and approved by the Owner.

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~~§ 3.4.3 Addenda will be issued no later than four days prior to the date for receipt of Bids except an Addendum withdrawing the request for Bids or one which includes postponement of the date for receipt of No Addenda will be issued later than the fifth (5th) calendar day prior to the date set for receipt of Bids, except to:~~

~~3.4.3.1 withdraw the request or Bids, or;~~

~~3.4.3.2 postpone the date for receipt of the Bids.~~

...

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, prospective Bidders shall be notified by telephone, fax, or other appropriate means with immediate follow up with a written Addendum. This Addendum shall verify the postponement of the original Bid Date and establish a new Bid Date. The new Bid Date shall 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 Bid Forms wherein the Bidder fails to acknowledge all issued Addenda by number shall be rejected as non-responsive, except for the following:

3.4.6.1 The Addendum only gives clarification or lists attendees at a Mandatory Pre-Bid Conference; or,

3.4.6.2 The Bid received clearly indicates that the Bidder received the Addendum, such as where the Addendum added another item to the Invitation for Construction Bids and the Bidder submitted a Bid thereon; or

3.4.6.3 The Addendum clearly would have had no effect or merely a trivial or negligible effect on price, quality, quantity, or delivery, and does not affect the relative standing of the Bidders. Under no circumstances can the Bid Amount be changed or modified.

(1) Trivial or Negligible Effect shall be defined as an increase in the Base Bid amount of the apparent low bidder, not to exceed one percent (1%) of the Base Bid amount. There shall be no percentage limitation if the Addendum decreases the cost of the Work. The cost of the Addendum shall be determined by the A/E or by the Agency's procurement officer.

(2) Relative Standing of the Bidders shall mean that the order of the Bidders would be the same regardless of the Addendum. If the estimated cost of the Addendum (regardless of the percent of increase) exceeds the difference between the Bids of the apparent low bidder and the second-low bidder, then the Bid of the apparent low bidder shall be rejected as non-responsive.

...

~~§ 4.1.1 Bids shall be submitted on the forms included with the Bidding Documents.~~Bid Form included with the Bidding Documents, or on true copies thereof, and signed in ink or other indelible media. The Bidder shall make no stipulations or qualify its Bid in any manner not permitted on the Bid Form.

...

~~§ 4.1.4 Interlineations, alterations and erasures must be initialed by the signer of the Bid.~~

~~§ 4.1.5 All requested Alternates shall be bid. If no change in the Base Bid is required, enter "No Change."~~must be bid.

~~4.1.5.1 Indicate either a dollar amount or the words "zero" or "No Change".~~

~~4.1.5.2 Indicate "ADD To" or "Deduct From" for each Alternate.~~

~~§ 4.1.6 Where two or more Bids for designated portions of the Work have been requested, the Bidder may, without forfeiture of the bid security, state the Bidder's refusal to accept award of less than the combination of~~

~~Bids stipulated by the Bidder. The Bidder shall make no additional stipulations on the bid form nor qualify the Bid in any other manner.~~

4.1.8 Unsigned Bids shall be rejected, provided however, that an unsigned Bid shall not be rejected when it is accompanied by a properly prepared Bid Security or by other material indicating the Bidder's intention to be bound by the unsigned document, such as the submission of a Bid Guarantee with the Bid or a letter with the Bid signed by the Bidder, referring to and identifying the Bid itself.

4.1.9 Subcontractor(s) listed on the Bid Form to perform Alternate Work may be used for both the Alternate and Base Bid Work, if the Alternate is accepted.

~~§ 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. The Bidder shall provide evidence of legal authority to perform within the jurisdiction of the Work. Each copy shall be signed by the person or persons legally authorized to bind the Bidder to a contract. A Bid by a corporation shall further give the state of incorporation and have the corporate seal affixed. A Bid submitted by an agent shall have a current power of attorney attached certifying the agent's authority to bind the Bidder.~~

§ 4.2.1 Each Bid shall be accompanied by a bid security in the form and amount required if so stipulated in the Instructions to Bidders. 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. The amount of the bid security shall not be forfeited to the Owner in the event the Owner fails to comply with Section 6.2. If required as stated in the Advertisement for Bid, each Bid shall be accompanied by Bid Security in the dollar amount, if any, listed on the Advertisement for Bid, or in an amount of not less than five (5) percent of the Base Bid. The Bid Security shall be:

4.2.1.1 Written on the Bid Bond and made payable to the Owner, or

4.2.1.2 An electronic Bid Bond authorization number issued by a firm or organization authorized by the surety to receive, authenticate and issue binding electronic Bid Bonds on behalf the surety; or

4.2.1.3 In the form of a certified cashier's check.

§ 4.2.2 If a surety bond is required, it shall be written on AIA Document A310, Bid Bond, unless otherwise provided in the Bidding Documents, 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. By providing an electronic bid bond authorization code and signing the Bid Form, the Bidder is certifying 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 of the Bid Bond provided in the Bidding Documents.

§ 4.2.3 The Owner will To be acceptable, a Bid Bond shall:

4.2.3.1 Be issued by a surety company licensed to do business in South Carolina;

4.2.3.2 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". 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.

4.2.3.3 Be accompanied by a certified and current power of attorney by the attorney-in-fact who executes the bond on the behalf of the surety company; and,

4.2.3.4 Be enclosed in the bid envelope at the time of Bid Opening, either in paper copy or as a Bid Bond authorization number provided on the Bid Form.

4.2.4 By providing Bid Security, the Bidder pledges to enter into a Contract with the Owner on the terms stated in the Bidding Documents and will, if required, furnish bonds covering the faithful performance of the Contract and payment of all obligations arising thereunder. The Bidder shall forfeit to the Owner as liquidated damages the amount of the Bid Security if the Bidder fails to:

4.2.4.1 Correct any Bid deficiency as required by the Bidding Documents and allowed by law, or

4.2.4.2 Enter into such Contract;and

4.2.4.3 Furnish such bonds, if required

4.2.5 The Owner shall 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 bonds, if required, have been furnished, or (b) the Bid Security of any or all bidders until such time as one of the three conditions listed below has been met.

4.2.5.1 The Contract for Construction has been executed and both Labor and Material Payment and Performance Bonds, if required, have been furnished; or,

4.2.5.2 The specified time has elapsed so that Bids may be withdrawn or (c) all Bids have been rejected; withdrawn; or,

4.2.5.3 The Owner has rejected all Bids.

4.2.6 Bidders submitting a Bid Security not meeting the required amount, surety rating or financial strength rating shall have one working day from the Bid Opening to cure the deficiency or the Bid shall be considered non-responsive. The Bid Security amount submitted with the Bid must be at least 80% of the required amount to be eligible for correction.

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§ 4.3.1 All copies of the Bid, the bid security, 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 Bid Envelope should be addressed to the party receiving the Bids and 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, the sealed envelope shall be enclosed in a separate mailing envelope with the notation "SEALED BID ENCLOSED" on the face thereof.

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4.3.3.1 Bidders attending the Bid Opening should bring Bids to the place of the Bid Opening as shown in the Advertisement to Bid. The Bids should be given to the procurement officer of the Owner or his designee prior to the time of the Bid Opening.

4.3.3.2 Bids sent by mail or special delivery service (UPS, Federal Express, etc.) should be labeled "SEALED BID ENCLOSED" and shall be addressed to the Owner designated purchasing office as shown in the Advertisement to Bid. Delivery of Bids to the above location shall be prior to the time of Bid Opening. Bids not received at the above location prior to the time of Bid Opening will be rejected.

4.3.5 Any other or special documents requested of the Bidder in these Bidding Documents shall be included in the Bid Envelope. If they are not included with the Bid Envelope, the Bidder shall have twenty four (24) hours from the time of the Bid Opening to provide these documents or its Bid shall be considered non-responsive.

4.3.6 The official time for receipt of Bids shall be determined by reference to the clock designated by the Owner or his designee. The procurement officer conducting the Bid Opening shall 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 shall be considered timely, whether or not the bid envelope has been date/time stamped or otherwise marked by the procurement officer.

...

§ 4.4.2 Prior to the time and date designated for receipt of Bids, a Bid submitted may be modified or withdrawn by notice to the party receiving Bids at the place designated for receipt of Bids. Such notice shall be in writing over the signature of the Bidder. Written confirmation over the signature of the Bidder shall be received, and date and time stamped by the receiving party on or before the date and time set for receipt of Bids. A change shall be so worded as not to reveal the amount of the original Bid. modification shall be in writing on the Bid Form contained in the Bidding Documents or a true copy thereof, and over the signature of the Bidder.

...

§ 5.1 OPENING OF BIDS

~~At the discretion of the Owner, if stipulated in the Advertisement or Invitation to Bid, the properly identified Bids received on time will be publicly opened and will be read aloud. An abstract of the Bids may be made available to Bidders.~~**COMPLIANCE WITH REQUIREMENTS.** To be considered, Bids shall be made in accordance with these Instructions to Bidders. Failure to comply with these bidding requirements may cause a bid to be rejected.

§ 5.2 REJECTION OF BIDSOPENING OF BIDS5.2.1 Bids received on time will be opened publicly and read aloud. Bids that are determined, at the time of opening, to be non-responsive shall not be read. If all Bids are to be rejected, the Owner shall announce the reason(s) therefore.

5.2.2 The date and location of the posting of the Notice of Intent to Award as listed in Article 9 of this document will be announced.

The Owner shall have the right to reject any or all Bids. A Bid not accompanied by a required bid security or by other data required by the Bidding Documents, or a Bid which is in any way incomplete or irregular is subject to rejection.

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

5.2.4 If the Project is to be awarded, the Owner shall send a copy of the Notice of Intent to Award to all Bidders after posting.

5.2.5 If only one Bid is received, the Bid shall be opened and considered.

§ 5.3 ACCEPTANCE OF BID (AWARD)**REJECTION OF BIDS.**

§ 5.3.1 It is the intent of the Owner to award a Contract to the lowest qualified Bidder provided the Bid has been submitted in accordance with the requirements of the Bidding Documents and does not exceed the funds available. The Owner shall have the right to waive informalities and irregularities in a Bid received and to accept the Bid which, in the Owner's judgment, is in the Owner's own best interests.

The Agency shall have the right to reject any and all bids, reject a Bid not accompanied by a required Bid Security or by other data required by the Bidding Documents, or reject a Bid which is in any way incomplete or irregular.

§ 5.3.2 The Owner shall have the right to accept Alternates in any order or combination, unless otherwise specifically provided in the Bidding Documents, and to determine the low Bidder on the basis of the sum of the Base Bid and Alternates accepted.Bids shall be rejected for any of the following reasons, which include, but are not limited to:

5.3.2.1 Failure by a Bidder to be represented at a Mandatory Pre-Bid Conference or site visit; or

5.3.2.2 Failure to deliver the Bid on time; or

5.3.2.3 Failure to comply with Bid Security Requirements, except as allowed herein; or

5.3.2.4 Listing an invalid electronic bid bond authorization number on the bid form; or

5.3.2.5 Failure to bid an Alternate; or

5.3.2.6 Failure to list qualified Subcontractors as required by law; or

5.3.2.7 Showing any modification(s) or exception(s) qualifying the Bid; or

5.3.2.8 Faxing a Bid directly to the Owner or their representative; or

5.3.2.9 Failure to include in the Bid Envelope all items required by the Bidding Documents; or

5.3.2.10 Failure to include a properly executed Power of Attorney with the bid bond.

5.3.3 Bids shall not be rejected for the following reasons, which include, but are not limited to:

5.3.3.1 Failure to write "Sealed Bid Enclosed" on the outside of the mailing envelope; or

5.3.3.2 Failure to seal the Bid envelope; or

5.3.3.3 Listing a modification to the Bid on the outside of the Bid envelope, provided however that such modification will not be considered; or

5.3.3.4 Failure to list any information on the envelope other than that which may be required by law or

5.3.3.5 Providing a fax copy or other reproduction of any or all Bidding Documents in the Bid envelope; or

5.3.3.6 Failure to indicate "Add to" or Deduct From" on an alternate, but only when the adjustment is obvious or

5.3.3.7 Failure to provide an Incremental Price or a Unit Price when requested on the bid Form; or
5.3.3.8 Providing additional listings of " Subcontractor Specialty" beyond those listed on the Bid Form; or
5.3.3.9 Failure of the Bidder to sign the Bid, provided it is accompanied by a properly prepared Bid Security or other information, as required by this Section; or
5.3.3.10 Providing a reproduction of a signature on any or all Bidding Documents; or
5.3.3.11 Failure of the corporation to include its seal on the Bid; or
5.3.3.12 Bid bond not signed by the bidder by only if the bond has been properly executed and signed by the bonding company or agent;
5.3.3.13 Immaterial variation from the exact requirements of the Bidding Documents.

5.3.4 Bidders shall have one (1) working day from the time of Bid opening to correct the following deficiencies:

5.3.4.1 Failure to provide five percent (5%) Bid Security when required, provided that the Bidder did furnish Bid Security in the proper form equal to at least eighty (80%) percent of that required in the Advertisement to Bid, and

5.3.4.2 Failure to provide a Bid bond with the proper surety rating and financial strength provided that the Bidder did furnish Bid Security in the proper form equal to at least eighty (80) percent of that required in the Advertisement to Bid.

5.4 ACCEPTANCE OF BID (AWARD)

5.4.1 INTENT TO AWARD. It is the intent of the Owner to award a Contract to the lowest evaluated responsive bid submitted by a responsible Bidder. The Owner reserves the right to conduct discussions with apparent responsive bidders for the purpose of clarification to assure full understanding of the requirements of the Invitation to Bid.

5.4.2 The bid shall be awarded by the combination of the base bid plus all alternates.

5.4.3 REJECTION OF BIDS. The Owner shall have the right to reject all Bids; to reject Unit Prices proposed in a Bid without invalidating other portions of the Bid; to waive informalities or irregularities in a Bid received and to accept that Bid which, in the Owner's judgement, is in the Owner's best interests. Failure by the Bidder to correct any deficiency as requested may cause the Bid to be rejected as non-responsive.

5.4.4 CONTRACT EXECUTION. The Owner shall not enter into a Contract in excess of \$50,000 to the lowest responsible and responsive Bidder before the eleventh (11th) day after the Notice of Intent to Award is posted. If only one bid is received and determined to be both responsive and responsible, award may be made and the contract executed after posting the Notice of Intent to Award without the ten day waiting period.

ARTICLE 6 CONTRACTOR'S QUALIFICATIONS

6.1 STANDARDS OF RESPONSIBILITY. A prospective Contractor shall be considered as meeting the State's standards of responsibility when the firm has:

6.1.1 Appropriate financial, material, equipment, facility and personnel resources and expertise, or the ability to obtain them, necessary to indicate its capability to meet all contractual requirements; and

6.1.2 A satisfactory record of performance; and

6.1.3 A satisfactory record of integrity; and

6.1.4 Is qualified legally to contract with the County;

6.1.5 Has supplied all necessary information in connection with the inquiry concerning responsibility.

6.2 ADDITIONAL INFORMATION. Each Bidder submitting a Bid shall, upon request, submit a Contractor's Statement of Qualifications in the form specified by the Agency and all additional information as required by the Agency to support the Agency's evaluation of the responsibility of the Bidder.

6.2.1 Each Bidder, by submitting a Bid, agrees to waive any claim it has or may have against the State, the Owner, the A/E and their respective employees arising out of or in connection with the administration, evaluation or recommendation of any bid.

ARTICLE 6 — POST-BID INFORMATION

§ 6.1 CONTRACTOR'S QUALIFICATION STATEMENT

~~Bidders to whom award of a Contract is under consideration shall submit to the Architect, upon request, a properly executed AIA Document A305, Contractor's Qualification Statement, unless such a Statement has been previously required and submitted as a prerequisite to the issuance of Bidding Documents.~~

§ 6.2 OWNER'S FINANCIAL CAPABILITY

~~The Owner shall, at the request of the Bidder to whom award of a Contract is under consideration and no later than seven days prior to the expiration of the time for withdrawal of Bids, furnish to the Bidder reasonable evidence that financial arrangements have been made to fulfill the Owner's obligations under the Contract. Unless such reasonable evidence is furnished, the Bidder will not be required to execute the Agreement between the Owner and Contractor.~~

§ 6.3 SUBMITTALS

~~§ 6.3.1 The Bidder shall, as soon as practicable or as stipulated in the Bidding Documents, after notification of selection for the award of a Contract, furnish to the Owner through the Architect in writing:~~

- ~~.1 — a designation of the Work to be performed with the Bidder's own forces;~~
- ~~.2 — names of the manufacturers, products, and the suppliers of principal items or systems of materials and equipment proposed for the Work; and~~
- ~~.3 — names of persons or entities (including those who are to furnish materials or equipment fabricated to a special design) proposed for the principal portions of the Work.~~

~~§ 6.3.2 The Bidder will be required to establish to the satisfaction of the Architect and Owner the reliability and responsibility of the persons or entities proposed to furnish and perform the Work described in the Bidding Documents.~~

~~§ 6.3.3 Prior to the execution of the Contract, the Architect will notify the Bidder in writing if either the Owner or Architect, after due investigation, has reasonable objection to a person or entity proposed by the Bidder. If the Owner or Architect has reasonable objection to a proposed person or entity, the Bidder may, at the Bidder's option, (1) withdraw the Bid or (2) submit an acceptable substitute person or entity with an adjustment in the Base Bid or Alternate Bid to cover the difference in cost occasioned by such substitution. The Owner may accept the adjusted bid price or disqualify the Bidder. In the event of either withdrawal or disqualification, bid security will not be forfeited.~~

~~§ 6.3.4 Persons and entities proposed by the Bidder and to whom the Owner and Architect have made no reasonable objection must be used on the Work for which they were proposed and shall not be changed except with the written consent of the Owner and Architect.~~

PAGE 9

~~§ 7.1.1 If stipulated in the Bidding Documents, the Bidder shall furnish bonds covering the faithful performance of the Contract and payment of all obligations arising thereunder. Bonds may be secured through the Bidder's usual sources. When required by the Invitation for Bids, the Contractor shall provide and pay the cost of Performance and Labor and Material Payment Bonds.~~

7.2 TIME OF DELIVERY

~~7.2.1 When bonds are required by the Invitation for Bids, the Contractor shall have a maximum of twenty-one (21) days from the date of posting of the Notice of Intent to Award, to deliver the Performance and Labor and Material Payment Bonds, Certificate of Insurance and the Contract (signed by Contractor only). Failure to deliver these documents as required shall entitle the Owner to consider the Bidder non-responsible and to declare the Bid Security forfeited.~~

~~§ 7.1.2 If the furnishing of such bonds is stipulated in the Bidding Documents, the cost shall be included in the Bid. If the furnishing of such bonds is required after receipt of bids and before execution of the Contract, the cost of such bonds shall be added to the Bid in determining the Contract Sum.~~

~~§ 7.1.3 If the Owner requires that bonds be secured from other than the Bidder's usual sources, changes in cost will be adjusted as provided in the Contract Documents.~~

~~§ 7.2 TIME OF DELIVERY AND FORM OF BONDS~~

~~§ 7.2.1 The Bidder shall deliver the required bonds to the Owner not later than three days following the date of execution of the Contract. If the Work is to be commenced prior thereto in response to a letter of intent, the Bidder shall, prior to commencement of the Work, submit evidence satisfactory to the Owner that such bonds will be furnished and delivered in accordance with this Section 7.2.1.~~

~~§ 7.2.2 Unless otherwise provided, the bonds shall be written on AIA Document A312, Performance Bond and Payment Bond. Both bonds shall be written in the amount of the Contract Sum.~~

~~§ 7.2.3 The bonds shall be dated on or after the date of the Contract.~~

~~§ 7.2.4 The Bidder shall require the attorney-in-fact who executes the required bonds on behalf of the surety to affix thereto a certified and current copy of the power of attorney.~~

Unless otherwise required in the Bidding Documents, the Agreement for the Work will be written on AIA Document A101, Standard Form of Agreement Between Owner and Contractor Where the Basis of Payment Is a Stipulated Sum.

ARTICLE 9 PROJECT INFORMATION

9.1 PROJECT NAME: RED DOE EXTERIOR STABILIZATION

PROJECT NUMBER: 37630-OT-01

PROJECT LOCATION: 1132 FRANCIS MARION ROAD, FLORENCE, SC

9.2 Bids sent by mail or special delivery service (UPS, FedEx, etc.) should be labeled "SEALED BID ENCLOSED" and shall be addressed to the Owner's designated procurement office as follows:

Name of Owner: FLORENCE COUNTY

Designated Procurement Office: Florence County Procurement Office

Office Address: 180 North Irby Street, MSC-G, Room B-5, Florence, SC 29501

Agency Representative: Angelia Jackson, Procurement Specialist II

Contact Information: 843-665-3018 phone 843-664-9668 fax ajackson@florenceco.org

Special Documents Required for this project are as follows:

9.3 The Notice of Intent to Award, will be posted at the following time and location:

Room or Area of Posting: Procurement Office, Room B-5

Building Where Posted: City County Complex

Address of Building: 180 North Irby Street

Date of Posting: TBD

9.4 Other special conditions of the Work, are listed below, or attached as referenced.

1. See Article 3.104 and 3.105 of 00811-Standard Supplemental Conditions Modifying Article 11.4 of AIA Document A201, 1997 Edition, requiring the contractor to provide the builder's risk insurance on the project.

2. Contractor shall comply with the attached "Certification Regarding Illegal Immigration".

Certification of Document's Authenticity

AIA® Document D401™ – 2003

I, Richard A. Starks , hereby certify, to the best of my knowledge, information and belief, that I created the attached final document simultaneously with its associated Additions and Deletions Report and this certification at 10:51:51 on 08/15/2011 under Order No. 2253738924_1 from AIA Contract Documents software and that in preparing the attached final document I made no changes to the original text of AIA® Document A701™ – 1997 - Instructions to Bidders, as published by the AIA in its software, other than those additions and deletions shown in the associated Additions and Deletions Report.

(Signed)

(Title)

(Dated)

CERTIFICATION REGARDING ILLEGAL IMMIGRATION

(November 2008)

By signing your bid, the contractor certifies that you will comply with the applicable requirements of Title 8, Chapter 14 of the South Carolina Code of Laws and agree to provide to the State upon request any documentation required to establish either: (a) that Title 8, Chapter 14 is inapplicable to you and your subcontractors or sub-contractors; or (b) that you and your subcontractors or sub-contractors 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." You agree to include in any contracts with your subcontractors language requiring your subcontractors to (a) comply with the applicable requirements of Title 8, Chapter 14, and (b) include in their contracts with the sub-contractors language requiring the sub-contractors to comply with the applicable requirements of Title 8, Chapter 14.

BID SURETY REQUIREMENT

Bid Surety acts to protect the County from delays and expenses incurred in the lengthy competitive sealed bidding process and provides the County with some financial assurance that should the bidder be awarded the project, the successful bidder will enter into the contract with the County. The successful bidder forfeits its Bid Surety in the event it cannot perform the work required by the invitations-for-bid.

For all responses submitted with estimated project costs exceeding fifty thousand dollars (\$50,000.00), Bid Surety in the amount of at least five percent (5%) of the proposed project costs must be submitted with the response. Failure to satisfy this Bid Surety requirement will result in your bid being considered non-responsive and removed from further consideration for award of the subject contract.

Sample Bid Bond

KNOW ALL PERSONS BY THESE PRESENTS THAT

(Insert full name and address or legal title of Bidders)

hereinafter referred to as "Principal", and

(Insert full name and address of principal place of business of Surety)

a corporation duly organized and existing under the laws of the State of _____, with its principal office in the City of _____; and authorized to transact business in this State, hereinafter called the "Surety", are jointly and severally held and firmly bound unto

(Insert full name of Agency)

Hereinafter referred to as "Obligee", the sum of _____, being the sum of Bond to which payment the Principal and Surety bind themselves, their heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

THE CONDITION OF THIS OBLIGATION IS SUCH that whereas the Principal has submitted to Obligee the accompanying bid incorporated by reference herein, dated as shown, to enter into a contract in writing for

RED DOE PLANTATION EXTERIOR STABILIZATION

NOW, THEREFORE, THE CONDITION OF THE ABOVE OBLIGATION IS SUCH, that default of Principal shall occur upon the failure of the Principal to deliver, within the time required by the Bidding Documents (or any extension thereof agreed to in writing by Obligee), the executed Agreement required by the Bidding Documents and any performance and payment Bonds required by the Bidding Documents. This obligation shall be null and void if the Obligee shall accept Principal's Bid and Principal delivers, within the time required by the Bidding Documents (or any extension thereof agreed to in writing by Obligee), the executed Agreement required by the Bidding Documents and any performance and payment Bonds required by the Bidding Documents; or all Bids are rejected by Obligee; or Obligee fails to issue a Notice of Intended Award to Principal within the time specified in the Bidding Documents (or any extension thereof agreed to in writing by Principal.) Payment under this Bond shall be due and payable in full upon default of Principal and within 30 calendar days after receipt by Principal and Surety of written notice of default from Obligee, which notice will be given within reasonable promptness, identifying this Bond and the Project and including a statement of the amount due. Surety waives notice of and any and all defenses based on or arising out of any time extension to issue the Notice of Intended Award agreed to in writing by Obligee and Principal. Any dispute, suit, action proceeding arising out of or relating to this Bond shall be governed by the Dispute Resolution Process defined in the Bidding Documents and the laws of the State of South Carolina. Surety shall cause to be attached to the Bond a current and effective Power of Attorney evidencing the authority of the officer, agent or representative who executed this Bond on behalf of Surety to execute, seal and deliver such Bond and bind the Surety thereby.

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

DATED this _____ day of _____, _____ **BOND NUMBER** _____

PRINCIPAL

SURETY

(Principal's Name)

(Surety's Name)

BY: _____
(Signature and Title)

BY: _____
(Signature and Title)

ATTEST: _____
(Signature and Title)

ATTEST: _____
(Signature and Title)

SECTION B100

**BID FORM
BID #14-10/11
EXTERIOR STABILIZATION
OF
RED DOE PLANTATION
1132 FRANCIS MARION ROAD
FLORENCE, SC 29501**

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 South Carolina 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 ninety (90) 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: EXTERIOR STABILIZATION

Replacement of 6 large columns across front of house, replace existing column bases and add foundation as indicated in the drawings; replace front porch stair case, repair front porch headers, beams and girders, replace front porch wood decking as required in drawings; repair or replace any windows and doors as indicated in drawings; repair all masonry and plaster as required in drawings; and back porch repair as indicated in drawings.

- A. Replacement of six (6) front porch columns and column bases
and add foundations per drawings \$ _____ lump sum
- B. Replace front porch stair case, repair front porch headers, beams
and girders, and replace front porch wood decking per drawing \$ _____ lump sum
- C. Repair or replace any windows and doors as indicated in
drawings \$ _____ lump sum

D. Repair all masonry and plaster as required per drawings \$_____ lump sum

E. Back porch repair as indicated in drawings \$_____ lump sum

TOTAL BASE BID \$ _____

§6.2 ALTERNATE ONE: LEAD BASED PAINT REMOVAL, DISPOSAL AND PAINTING OF ENTIRE EXTERIOR

Provide the amount to be added to the base bid to remove and dispose of all exterior lead based paint as indicated in the Davis and Brown Certificate of Analysis dated June 21, 2010 and paint entire exterior of house to include, but not limited to, windows, doors, plaster and all areas that were previously painted per drawings.

☐ ADD TO or DEDUCT FROM BASE BID \$ lump sum

ALTERNATE TWO: INSULATION

Provide the amount to be added to the base bid to install 12 inches of blown cellulose insulation in the attic to model energy code standards.

☐ ADD TO **or** DEDUCT FROM BASE BID \$ _____ lump sum

§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 at end of this bid form.

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

[illegible]

	ALTERNATE TWO	

If the 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.

§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 AND 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 240 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 \$200 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 County.
- c. Bidder agrees that neither Florence County 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 reasons 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 Florence County under the terms and conditions of the bid bond, including the bidding documents.

ELECTRONIC BID BOND NUMBER: _____
SIGNATURE AND TITLE: _____

LICENSING REQUIREMENTS:

Contractor must possess a SC General Contractors License in order to be awarded the contract. Contractor must be licensed for the work at the time of the bid.

BIDDER AGREEMENTS:

Bidder understands that the Owner reserves the right to reject any and all bids and to waive any informalities in the bidding. The County may award the base bid plus one or both alternates or the base bid only based upon funding availability.

LEGAL COMPANY NAME: _____

D/B/A IF APPLICABLE: _____

MAILING ADDRESS: _____

PHYSICAL ADDRESS: _____

CITY-STATE-ZIP: _____

TELEPHONE NO: _____ FAX : _____

FEDERAL ID (TAX ID) NO: _____

AUTHORIZED SIGNATURE: _____

PRINTED NAME: _____

SC GENERAL CONTRACTOR'S LICENSE # _____

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 of the subcontractor(s) Bidder will use to perform the work of each listed specialty. Bidder must identify only the subcontractor 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 subcontractor 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-contractors 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 the bid opening as a listing in the alternatives. 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 entries 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 nonresponsive 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.

AIA® Document A101™ – 2007

Standard Form of Agreement Between Owner and Contractor where the basis of payment is a Stipulated Sum

AGREEMENT made as of the day of in the year
(In words, indicate day, month and year.)

BETWEEN the Owner:
(Name, legal status, address and other information)

County of Florence
180 North Irby Street, MSC-G
Florence, SC 29501
843-665-3035

and the Contractor:
(Name, legal status, address and other information)

for the following Project:
(Name, location and detailed description)

Red Doe Exterior Stabilization
1132 Francis Marion Road
Florence, SC 29501

The Architect:
(Name, legal status, address and other information)

Tony W. Gibson, AIA
121 South Cashua Drive
Florence, SC 29501

The Owner and Contractor agree as follows.

ADDITIONS AND DELETIONS:

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

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

AIA Document A201™–2007, General Conditions of the Contract for Construction, is adopted in this document by reference. Do not use with other general conditions unless this document is modified.

§ 3.3 The Contractor shall achieve Substantial Completion of the entire Work not later than two hundred forty days (240) days from the date of commencement, or as follows:
(Insert number of calendar days. Alternatively, a calendar date may be used when coordinated with the date of commencement. If appropriate, insert requirements for earlier Substantial Completion of certain portions of the Work.)

Portion of Work

Substantial Completion Date

, subject to adjustments of this Contract Time as provided in the Contract Documents.
(Insert provisions, if any, for liquidated damages relating to failure to achieve Substantial Completion on time or for bonus payments for early completion of the Work.)

ARTICLE 4 CONTRACT SUM

§ 4.1 The Owner shall pay the Contractor the Contract Sum in current funds for the Contractor's performance of the Contract. The Contract Sum shall be (\$), subject to additions and deductions as provided in the Contract Documents.

§ 4.2 The Contract Sum is based upon the following alternates, if any, which are described in the Contract Documents and are hereby accepted by the Owner:

(State the numbers or other identification of accepted alternates. If the bidding or proposal documents permit the Owner to accept other alternates subsequent to the execution of this Agreement, attach a schedule of such other alternates showing the amount for each and the date when that amount expires.)

§ 4.3 Unit prices, if any:

(Identify and state the unit price; state quantity limitations, if any, to which the unit price will be applicable.)

Item	Units and Limitations	Price Per Unit (\$0.00)
------	-----------------------	-------------------------

§ 4.4 Allowances included in the Contract Sum, if any:

(Identify allowance and state exclusions, if any, from the allowance price.)

Item	Price
------	-------

ARTICLE 5 PAYMENTS

§ 5.1 PROGRESS PAYMENTS

§ 5.1.1 Based upon Applications for Payment submitted to the Architect and Owner by the Contractor and Certificates for Payment issued by the Architect, the Owner shall make progress payments on account of the Contract Sum to the Contractor as provided below and elsewhere in the Contract Documents.

§ 5.1.2 The period covered by each Application for Payment shall be one calendar month ending on the last day of the month, or as follows:

§ 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.

Init.

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User Notes:

(1849967687)

§ 5.1.4 Each Application for Payment shall be based on the most recent schedule of values submitted by the Contractor in accordance with the Contract Documents. The schedule of values shall allocate the entire Contract Sum among the various portions of the Work. The schedule of values shall be 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.

§ 5.1.5 Applications for Payment shall show the percentage of completion of each portion of the Work as of the end of the period covered by the Application for Payment.

§ 5.1.6 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) the amount of each progress payment shall be computed as follows:

- .1 Take that portion of the Contract Sum properly allocable to completed Work as determined by multiplying the percentage completion of each portion of the Work by the share of the Contract Sum allocated to that portion of the Work in the schedule of values, less retainage of three and one-half percent (3.5 %). Pending final determination of cost to the Owner of changes in the Work, amounts not in dispute shall be included as provided in Section 7.3.9 of AIA Document A201™-2007, General Conditions of the Contract for Construction;
- .2 Add that portion of the Contract Sum properly allocable to materials and equipment delivered and suitably stored at the site for subsequent incorporation in the completed construction (or, if approved in advance by the Owner, suitably stored off the site at a location agreed upon in writing), less retainage of three and one-half percent (3.5 %);
- .3 Subtract the aggregate of previous payments made by the Owner; and
- .4 Subtract amounts, if any, for which the Architect has withheld or nullified a Certificate for Payment as provided in Section 9.5 of AIA Document A201-2007.

§ 5.1.7 The progress payment amount determined in accordance with Section 5.1.6 shall be further modified under the following circumstances:

- .1 Add, upon Substantial Completion of the Work, a sum sufficient to increase the total payments to the full amount of the Contract Sum, less such amounts as the Architect shall determine for incomplete Work, retainage applicable to such work and unsettled claims; and
(Section 9.8.5 of AIA Document A201-2007 requires release of applicable retainage upon Substantial Completion of Work with consent of surety, if any.)
- .2 Add, if final completion of the Work is thereafter materially delayed through no fault of the Contractor, any additional amounts payable in accordance with Section 9.10.3 of AIA Document A201-2007.

§ 5.1.8 Reduction or limitation of retainage, if any, shall be as set forth in S.C. Code Ann. § 11-35-3030(4).
(If it is intended, prior to Substantial Completion of the entire Work, to reduce or limit the retainage resulting from the percentages inserted in Sections 5.1.6.1 and 5.1.6.2 above, and this is not explained elsewhere in the Contract Documents, insert here provisions for such reduction or limitation.)

§ 5.1.9 Contractor shall not make advance payments to suppliers for materials or equipment which have not been delivered and stored at the site.

§ 5.2 FINAL PAYMENT

§ 5.2.1 Final payment, constituting the entire unpaid balance of the Contract Sum, shall be made by the Owner to the Contractor when

- .1 the Contractor has fully performed the Contract except for the Contractor's responsibility to correct Work as provided in Section 12.2.2 of AIA Document A201-2007, and to satisfy other requirements, if any, which extend beyond final payment; and
- .2 a final Certificate for Payment has been issued by the Architect.

§ 5.2.2 The Owner's final payment to the Contractor shall be made no later than 21 days after the issuance of the Architect's final Certificate for Payment.

Init.

ARTICLE 6 DISPUTE RESOLUTION

§ 6.1 INITIAL DECISION MAKER

(Paragraphs deleted)

Reserved.

§ 6.2 BINDING DISPUTE RESOLUTION

(Paragraphs deleted)

Reserved.

ARTICLE 7 TERMINATION OR SUSPENSION

§ 7.1 The Contract may be terminated by the Owner or the Contractor as provided in Article 14 of AIA Document A201–2007.

§ 7.2 The Work may be suspended by the Owner as provided in Article 14 of AIA Document A201–2007.

ARTICLE 8 MISCELLANEOUS PROVISIONS

§ 8.1 Where reference is made in this Agreement to a provision of AIA Document A201–2007 or another Contract Document, the reference refers to that provision as amended or supplemented by other provisions of the Contract Documents.

§ 8.2 Reserved.

(Insert rate of interest agreed upon, if any.)

%

§ 8.3 The Owner's representatives.

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 resolves disputes under Section 15.6 of the General Conditions:

Name:

Title:

Address:

Telephone:

Email:

Fax:

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

Name:

Title:

Address:

Telephone:

Email:

Fax:

§ 8.4 The Contractor's representatives.

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:

Init.

Fax
Email

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:

§ 8.5 Neither the Owner's nor the Contractor's representative shall be changed without ten days written notice to the other party.

§ 8.6 Other provisions:

8.6.1 The Architect's representative:

Name:
Title:
Address:
Telephone:
Email:
Fax:

ARTICLE 9 ENUMERATION OF CONTRACT DOCUMENTS

§ 9.1 The Contract Documents, except for Modifications issued after execution of this Agreement, are enumerated in the sections below.

§ 9.1.1 The Agreement is this executed AIA Document A101-2007, Standard Form of Agreement Between Owner and Contractor.

§ 9.1.2 The General Conditions are AIA Document A201-2007, General Conditions of the Contract for Construction.

§ 9.1.3 The Supplementary and other Conditions of the Contract:

Document	Title	Date	Pages
----------	-------	------	-------

§ 9.1.4 The Specifications:

(Either list the Specifications here or refer to an exhibit attached to this Agreement.)

Section	Title	Date	Pages
---------	-------	------	-------

§ 9.1.5 The Drawings:

(Either list the Drawings here or refer to an exhibit attached to this Agreement.)

Number	Title	Date
--------	-------	------

§ 9.1.6 The Addenda, if any:

Init.

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User Notes:

(1849967687)

Number

Date

Pages

Portions of Addenda relating to bidding requirements are not part of the Contract Documents unless the bidding requirements are also enumerated in this Article 9.

§ 9.1.7 Additional documents, if any, forming part of the Contract Documents:

- .1 AIA Document E201™–2007, Digital Data Protocol Exhibit, if completed by the parties, or the following:
- .2 Other documents, if any, listed below:
(List here any additional documents that are intended to form part of the Contract Documents. AIA Document A201–2007 provides that bidding requirements such as advertisement or invitation to bid, Instructions to Bidders, sample forms and the Contractor's bid are not part of the Contract Documents unless enumerated in this Agreement. They should be listed here only if intended to be part of the Contract Documents.)

Invitation for Construction Bid
Instructions to Bidders (A701-1997)
Bid Form
Notice of Intent to Award
Certificate of procurement authority issued by the SCB&CB

ARTICLE 10 INSURANCE AND BONDS

The Contractor shall purchase and maintain insurance and provide bonds as set forth in Article 11 of AIA Document A201–2007.

(Paragraph deleted)

Type of insurance or bond

Limit of liability or bond amount (\$0.00)

This Agreement entered into as of the day and year first written above.

OWNER (Signature)

CONTRACTOR (Signature)

(Printed name and title)

(Printed name and title)

Init.

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Additions and Deletions Report for

AIA® Document A101™ – 2007

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

Note: This Additions and Deletions Report is provided for information purposes only and is not incorporated into or constitute any part of the associated AIA document. This Additions and Deletions Report and its associated document were generated simultaneously by AIA software at 15:17:04 on 08/15/2011.

PAGE 1

County of Florence
180 North Irby Street, MSC-G
Florence, SC 29501
843-665-3035

...

Red Doe Exterior Stabilization
1132 Francis Marion Road
Florence, SC 29501

...

Tony W. Gibson, AIA
121 South Cashua Drive
Florence, SC 29501

PAGE 2

§ 3.1 The date of commencement of the Work shall be the date of ~~this Agreement unless a different date is stated below or provision is made for the date to be fixed in a notice to proceed issued by the Owner~~ 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.

...

§ 3.2 The Contract Time shall be measured from the date of ~~commencement~~ commencement as provided in Section 9(a) of the Bid Form 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, subject to adjustments of this Contract Time as provided in the Contract Documents.

§ 3.3 The Contractor shall achieve Substantial Completion of the entire Work not later than two hundred forty days (240) days from the date of commencement, or as follows:

PAGE 3

§ 5.1.1 Based upon Applications for Payment submitted to the Architect and Owner by the Contractor and Certificates for Payment issued by the Architect, the Owner shall make progress payments on account of the Contract Sum to the Contractor as provided below and elsewhere in the Contract Documents.

...

§ 5.1.3 ~~Provided that an Application for Payment is received by the Architect not later than the day of a month, the~~
~~The Owner shall make payment of the certified amount to the Contractor not later than the day of the month. If an~~
~~Application for Payment is received by the Architect after the application date fixed above, payment shall be made by~~
~~the Owner not later than () days after the Architect receives the Application for Payment.~~
~~(Federal, state or local laws may require payment within a certain period of time.)~~ 21 days after receipt of the
Application for Payment.

PAGE 4

§ 5.1.6 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) the amount of
each progress payment shall be computed as follows:

- .1 Take that portion of the Contract Sum properly allocable to completed Work as determined by
multiplying the percentage completion of each portion of the Work by the share of the Contract Sum
allocated to that portion of the Work in the schedule of values, less retainage of three and one-half
percent (3.5 %). Pending final determination of cost to the Owner of changes in the Work, amounts
not in dispute shall be included as provided in Section 7.3.9 of AIA Document A201™-2007, General
Conditions of the Contract for Construction;
- .2 Add that portion of the Contract Sum properly allocable to materials and equipment delivered and
suitably stored at the site for subsequent incorporation in the completed construction (or, if approved in
advance by the Owner, suitably stored off the site at a location agreed upon in writing), less retainage of
three and one-half percent (3.5 %);

...

§ 5.1.8 Reduction or limitation of retainage, if any, shall be as ~~follows:~~ set forth in S.C. Code Ann. § 11-35-3030(4).

...

§ 5.1.9 ~~Except with the Owner's prior approval, the Contractor shall not make advance payments to suppliers for~~
~~materials or equipment which have not been delivered and stored at the site.~~

...

§ 5.2.2 The Owner's final payment to the Contractor shall be made no later than ~~30~~ 21 days after the issuance of the
Architect's final Certificate for ~~Payment, or as follows:~~ Payment.

PAGE 5

~~The Architect will serve as Initial Decision Maker pursuant to Section 15.2 of AIA Document A201-2007, unless the~~
~~parties appoint below another individual, not a party to this Agreement, to serve as Initial Decision Maker.~~

~~(If the parties mutually agree, insert the name, address and other contact information of the Initial Decision Maker, if~~
~~other than the Architect.)~~

Reserved.

...

~~For any Claim subject to, but not resolved by, mediation pursuant to Section 15.3 of AIA Document A201-2007, the~~
~~method of binding dispute resolution shall be as follows:~~

~~(Check the appropriate box. If the Owner and Contractor do not select a method of binding dispute resolution below,~~
~~or do not subsequently agree in writing to a binding dispute resolution method other than litigation, Claims will be~~
~~resolved by litigation in a court of competent jurisdiction.)~~

☐ ~~Arbitration pursuant to Section 15.4 of AIA Document A201-2007~~

☐ ~~Litigation in a court of competent jurisdiction~~

☐ ~~Other (Specify)~~

Reserved.

...

~~§ 8.2 Payments due and unpaid under the Contract shall bear interest from the date payment is due at the rate stated below, or in the absence thereof, at the legal rate prevailing from time to time at the place where the Project is located.~~ Reserved.

...

~~§ 8.3 The Owner's representative; representatives.~~

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:

Title:

Address:

Telephone:

Email:

~~(Name, address and other information)~~ Fax:

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

Name:

Title:

Address:

Telephone:

Email:

Fax:

~~§ 8.4 The Contractor's representative; representatives.~~

~~(Name, address and other information)~~ 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:

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:

PAGE 6

8.6.1 The Architect's representative:

Name:

Title:

Address:

Telephone:

Email:

Fax:

PAGE 7

Invitation for Construction Bid

Instructions to Bidders (A701-1997)

Bid Form

Notice of Intent to Award

Certificate of procurement authority issued by the SCB&CB

...

~~(State bonding requirements, if any, and limits of liability for insurance required in Article 11 of AIA Document A201-2007.)~~

Certification of Document's Authenticity

AIA® Document D401™ – 2003

I, Richard A. Starks , hereby certify, to the best of my knowledge, information and belief, that I created the attached final document simultaneously with its associated Additions and Deletions Report and this certification at 15:17:04 on 08/15/2011 under Order No. 2253738924_1 from AIA Contract Documents software and that in preparing the attached final document I made no changes to the original text of AIA® Document A101™ – 2007 - Standard Form of Agreement Between Owner and Contractor where the basis of payment is a Stipulated Sum, as published by the AIA in its software, other than those additions and deletions shown in the associated Additions and Deletions Report.

(Signed)

(Title)

(Dated)

AIA® Document A201™ – 2007

General Conditions of the Contract for Construction

for the following PROJECT:

(Name and location or address)

Red Doe Exterior Stabilization
1132 Francis Marion Road
Florence, South Carolina 29501

THE OWNER:

(Name, legal status and address)

Florence County
180 North Irby Street, MSC-G
Florence, South Carolina 29501

THE ARCHITECT:

(Name, legal status and address)

Tony Gibson, AIA
121 S. Cashua Drive
Florence, SC 29501
843-229-1036

ADDITIONS AND DELETIONS:

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

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

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ARTICLE 1 GENERAL PROVISIONS

§ 1.1 BASIC DEFINITIONS

§ 1.1.1 THE CONTRACT DOCUMENTS

The Contract Documents are enumerated in the Agreement between the Owner and Contractor (hereinafter the Agreement) and consist of the Agreement, Conditions of the Contract (General, Supplementary and other Conditions), Drawings, Specifications, Addenda issued prior to execution of the Contract, other documents listed in the Agreement and Modifications issued after execution of the Contract. A Modification is (1) a written amendment to the Contract signed by both parties, (2) a Change Order, (3) a Construction Change Directive or (4) a written order for a minor change in the Work issued by the Architect. Unless specifically enumerated in the Agreement, the Contract Documents do not include the advertisement or invitation to bid, Instructions to Bidders, sample forms, other information furnished by the Owner in anticipation of receiving bids or proposals, the Contractor's bid or proposal, or portions of Addenda relating to bidding requirements.

§ 1.1.2 THE CONTRACT

The Contract Documents form the Contract for Construction. The Contract represents the entire and integrated agreement between the parties hereto and supersedes prior negotiations, representations or agreements, either written or oral. The Contract may be amended or modified only by a Modification. The Contract Documents shall not be construed to create a contractual relationship of any kind (1) between the Contractor and the Architect or the Architect's consultants, (2) between the Owner and a Subcontractor or a Sub-subcontractor, (3) between the Owner and the Architect or the Architect's consultants or (4) between any persons or entities other than the Owner and the Contractor. The Architect shall, however, be entitled to performance and enforcement of obligations under the Contract intended to facilitate performance of the Architect's duties.

§ 1.1.3 THE WORK

The term "Work" means the construction and services required by the Contract Documents, whether completed or partially completed, and includes all other labor, materials, equipment and services provided or to be provided by the Contractor to fulfill the Contractor's obligations. The Work may constitute the whole or a part of the Project.

§ 1.1.4 THE PROJECT

The Project is the total construction of which the Work performed under the Contract Documents may be the whole or a part and which may include construction by the Owner and by separate contractors.

§ 1.1.5 THE DRAWINGS

The Drawings are the graphic and pictorial portions of the Contract Documents showing the design, location and dimensions of the Work, generally including plans, elevations, sections, details, schedules and diagrams.

§ 1.1.6 THE SPECIFICATIONS

The Specifications are that portion of the Contract Documents consisting of the written requirements for materials, equipment, systems, standards and workmanship for the Work, and performance of related services.

§ 1.1.7 INSTRUMENTS OF SERVICE

Instruments of Service are representations, in any medium of expression now known or later developed, of the tangible and intangible creative work performed by the Architect and the Architect's consultants under their respective professional services agreements. Instruments of Service may include, without limitation, studies, surveys, models, sketches, drawings, specifications, and other similar materials.

§ 1.1.8 INITIAL DECISION MAKER

The Initial Decision Maker is the person identified in the Agreement to render initial decisions on Claims in accordance with Section 15.2 and certify termination of the Agreement under Section 14.2.2.

§ 1.2 CORRELATION AND INTENT OF THE CONTRACT DOCUMENTS

§ 1.2.1 The intent of the Contract Documents is to include all items necessary for the proper execution and completion of the Work by the Contractor. The Contract Documents are complementary, and what is required by one shall be as binding as if required by all; performance by the Contractor shall be required only to the extent consistent with the Contract Documents and reasonably inferable from them as being necessary to produce the indicated results.

§ 1.2.2 Organization of the Specifications into divisions, sections and articles, and arrangement of Drawings shall not control the Contractor in dividing the Work among Subcontractors or in establishing the extent of Work to be performed by any trade.

§ 1.2.3 Unless otherwise stated in the Contract Documents, words that have well-known technical or construction industry meanings are used in the Contract Documents in accordance with such recognized meanings.

§ 1.3 CAPITALIZATION

Terms capitalized in these General Conditions include those that are (1) specifically defined, (2) the titles of numbered articles or (3) the titles of other documents published by the American Institute of Architects.

§ 1.4 INTERPRETATION

In the interest of brevity the Contract Documents frequently omit modifying words such as "all" and "any" and articles such as "the" and "an," but the fact that a modifier or an article is absent from one statement and appears in another is not intended to affect the interpretation of either statement.

§ 1.5 OWNERSHIP AND USE OF DRAWINGS, SPECIFICATIONS AND OTHER INSTRUMENTS OF SERVICE

§ 1.5.1 The Architect and the Architect's consultants shall be deemed the authors and owners of their respective Instruments of Service, including the Drawings and Specifications, and 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 publication in derogation of the Architect's or Architect's consultants' reserved rights.

§ 1.5.2 The Contractor, Subcontractors, Sub-subcontractors and material or equipment suppliers are authorized to use and reproduce the Instruments of Service provided to them solely and exclusively for execution of the Work. All copies made under this authorization shall bear the copyright notice, if any, shown on the Instruments of Service. The Contractor, Subcontractors, Sub-subcontractors, and material or equipment suppliers may not use the Instruments of Service on other projects or for additions to this Project outside the scope of the Work without the specific written consent of the Owner, Architect and the Architect's consultants.

§ 1.6 TRANSMISSION OF DATA IN DIGITAL FORM

If the parties intend to transmit Instruments of Service or any other information or documentation in digital form, they shall endeavor to establish necessary protocols governing such transmissions, unless otherwise already provided in the Agreement or the Contract Documents.

ARTICLE 2 OWNER

§ 2.1 GENERAL

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

§ 2.1.2 The Owner shall furnish to the Contractor within fifteen days after receipt of a written request, information necessary and relevant for the Contractor to evaluate, give notice of or enforce mechanic's lien rights. Such information shall include a correct statement of the record legal title to the property on which the Project is located, usually referred to as the site, and the Owner's interest therein.

§ 2.2 INFORMATION AND SERVICES REQUIRED OF THE OWNER

§ 2.2.1 Prior to commencement of the Work, the Contractor may request in writing that the Owner provide reasonable evidence that the Owner has made financial arrangements to fulfill the Owner's obligations under the Contract. Thereafter, the Contractor may only request such evidence if (1) the Owner fails to make payments to the Contractor as the Contract Documents require; (2) a change in the Work materially changes the Contract Sum; or (3) the Contractor identifies in writing a reasonable concern regarding the Owner's ability to make payment when due. The Owner shall furnish such evidence as a condition precedent to commencement or continuation of the Work or the

portion of the Work affected by a material change. After the Owner furnishes the evidence, the Owner shall not materially vary such financial arrangements without prior notice to the Contractor.

§ 2.2.2 Except for permits and fees that are the responsibility of the Contractor under the Contract Documents, including those required under Section 3.7.1, the Owner shall secure and pay for necessary approvals, easements, assessments and charges required for construction, use or occupancy of permanent structures or for permanent changes in existing facilities.

§ 2.2.3 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. The Contractor shall be entitled to rely on the accuracy of information furnished by the Owner but shall exercise proper precautions relating to the safe performance of the Work.

§ 2.2.4 The Owner shall furnish information or services required of the Owner by the Contract Documents with reasonable promptness. The Owner shall also furnish any other information or services under the Owner's control and relevant to the Contractor's performance of the Work with reasonable promptness after receiving the Contractor's written request for such information or services.

§ 2.2.5 Unless otherwise provided in the Contract Documents, the Owner shall furnish to the Contractor one copy of the Contract Documents for purposes of making reproductions pursuant to Section 1.5.2.

§ 2.3 OWNER'S RIGHT TO STOP THE WORK

If the Contractor fails to correct Work that is not in accordance with the requirements of the Contract Documents as required by Section 12.2 or repeatedly fails to carry out Work in accordance with the Contract Documents, the Owner may issue a written order to the Contractor to stop the Work, or any portion thereof, until the cause for such order has been eliminated; however, the right of the Owner to stop the Work shall not give rise to a duty on the part of the Owner to exercise this right for the benefit of the Contractor or any other person or entity, except to the extent required by Section 6.1.3.

§ 2.4 OWNER'S RIGHT TO CARRY OUT THE WORK

If the Contractor defaults or neglects to carry out the Work in accordance with the Contract Documents and fails within a ten-day period after receipt of written notice from the Owner to commence and continue correction of such default or neglect with diligence and promptness, the Owner may, without prejudice to other remedies the Owner may have, correct such deficiencies. In such case an appropriate Change Order 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. Such action by the Owner and amounts charged to the Contractor are both subject to prior approval of the Architect. If payments then or thereafter due the Contractor are not sufficient to cover such amounts, the Contractor shall pay the difference to the Owner.

ARTICLE 3 CONTRACTOR

§ 3.1 GENERAL

§ 3.1.1 The Contractor is the person or entity identified as such in the Agreement and is referred to throughout the Contract Documents as if singular in number. The Contractor shall be lawfully licensed, if required in the jurisdiction where the Project is located. The Contractor shall designate in writing a representative who shall have express authority to bind the Contractor with respect to all matters under this Contract. The term "Contractor" means the Contractor or the Contractor's authorized representative.

§ 3.1.2 The Contractor shall perform the Work in accordance with the Contract Documents.

§ 3.1.3 The Contractor shall not be relieved of obligations to perform the Work in accordance with the Contract Documents either by activities or duties of the Architect in the Architect's administration of the Contract, or by tests, inspections or approvals required or performed by persons or entities other than the Contractor.

§ 3.2 REVIEW OF CONTRACT DOCUMENTS AND FIELD CONDITIONS BY CONTRACTOR

§ 3.2.1 Execution of the Contract by the Contractor is a representation that the Contractor has visited the site, become generally familiar with local conditions under which the Work is to be performed and correlated personal observations with requirements of the Contract Documents.

§ 3.2.2 Because the Contract Documents are complementary, the Contractor shall, before starting each portion of the Work, carefully study and compare the various Contract Documents relative to that portion of the Work, as well as the information furnished by the Owner pursuant to Section 2.2.3, shall take field measurements of any existing conditions related to that portion of the Work, and shall observe any conditions at the site affecting it. These obligations are for the purpose of facilitating coordination and construction by the Contractor and are not for the purpose of discovering errors, omissions, or inconsistencies in the Contract Documents; however, the Contractor shall promptly report to the Architect any errors, inconsistencies or omissions discovered by or made known to the Contractor as a request for information in such form as the Architect may require. It is recognized that the Contractor's review is made in the Contractor's capacity as a contractor and not as a licensed design professional, unless otherwise specifically provided in the Contract Documents.

§ 3.2.3 The Contractor is not required to ascertain that the Contract Documents are in accordance with applicable laws, statutes, ordinances, codes, rules and regulations, or lawful orders of public authorities, but the Contractor shall promptly report to the Architect any nonconformity discovered by or made known to the Contractor as a request for information in such form as the Architect may require.

§ 3.2.4 If the Contractor believes that additional cost or time is involved because of clarifications or instructions the Architect issues in response to the Contractor's notices or requests for information pursuant to Sections 3.2.2 or 3.2.3, the Contractor shall make Claims as provided in Article 15. If the Contractor fails to perform the obligations of Sections 3.2.2 or 3.2.3, the Contractor shall pay such costs and damages to the Owner as would have been avoided if the Contractor had performed such obligations. If the Contractor performs those obligations, the Contractor shall not be liable to the Owner or Architect for damages resulting from errors, inconsistencies or omissions in the Contract Documents, for differences between field measurements or conditions and the Contract Documents, or for nonconformities of the Contract Documents to applicable laws, statutes, ordinances, codes, rules and regulations, and lawful orders of public authorities.

§ 3.3 SUPERVISION AND CONSTRUCTION PROCEDURES

§ 3.3.1 The Contractor shall supervise and direct the Work, using the Contractor's best skill and attention. The Contractor shall be solely responsible for, and have control over, construction means, methods, techniques, sequences and procedures and for coordinating all portions of the Work under the Contract, unless the Contract Documents give other specific instructions concerning these matters. If the Contract Documents give specific instructions concerning construction means, methods, techniques, sequences or procedures, the Contractor shall evaluate the jobsite safety thereof and, except as stated below, shall be fully and solely responsible for the jobsite safety of such means, methods, techniques, sequences or procedures. If the Contractor determines that such means, methods, techniques, sequences or procedures may not be safe, the Contractor shall give timely written notice to the Owner and Architect and shall not proceed with that portion of the Work without further written instructions from the Architect. If the Contractor is then instructed to proceed with the required means, methods, techniques, sequences or procedures without acceptance of changes proposed by the Contractor, the Owner shall be solely responsible for any loss or damage arising solely from those Owner-required means, methods, techniques, sequences or procedures.

§ 3.3.2 The Contractor shall be responsible to the Owner for acts and omissions of the Contractor's employees, Subcontractors and their agents and employees, and other persons or entities performing portions of the Work for, or on behalf of, the Contractor or any of its Subcontractors.

§ 3.3.3 The Contractor shall be responsible for inspection of portions of Work already performed to determine that such portions are in proper condition to receive subsequent Work.

§ 3.4 LABOR AND MATERIALS

§ 3.4.1 Unless otherwise provided in the Contract Documents, the Contractor shall provide and pay for labor, materials, equipment, tools, construction equipment and machinery, water, heat, utilities, transportation, and other facilities and services necessary for proper execution and completion of the Work, whether temporary or permanent and whether or not incorporated or to be incorporated in the Work.

§ 3.4.2 Except in the case of minor changes in the Work authorized by the Architect in accordance with Sections 3.12.8 or 7.4, the Contractor may make substitutions only with the consent of the Owner, after evaluation by the Architect and in accordance with a Change Order or Construction Change Directive.

§ 3.4.3 The Contractor shall enforce strict discipline and good order among the Contractor's employees and other persons carrying out the Work. The Contractor shall not permit employment of unfit persons or persons not properly skilled in tasks assigned to them.

§ 3.5 WARRANTY

The Contractor warrants to the Owner and Architect that materials and equipment furnished under the Contract will be of good quality and new unless the Contract Documents require or permit otherwise. The Contractor further warrants that the Work will conform to the requirements of the Contract Documents and will be free from defects, except for those inherent in the quality of the Work the Contract Documents require or permit. Work, materials, or equipment not conforming to these requirements may be considered defective. The Contractor's warranty excludes remedy for damage or defect caused by abuse, alterations to the Work not executed by the Contractor, improper or insufficient maintenance, improper operation, or normal wear and tear and normal usage. If required by the Architect, the Contractor shall furnish satisfactory evidence as to the kind and quality of materials and equipment.

§ 3.6 TAXES

The Contractor shall pay sales, consumer, use and similar taxes for the Work provided by the Contractor that are legally enacted when bids are received or negotiations concluded, whether or not yet effective or merely scheduled to go into effect.

§ 3.7 PERMITS, FEES, NOTICES AND COMPLIANCE WITH LAWS

§ 3.7.1 Unless otherwise provided in the Contract Documents, the Contractor shall secure and pay for the building permit as well as for other permits, fees, licenses, and inspections by government agencies necessary for proper execution and completion of the Work that are customarily secured after execution of the Contract and legally required at the time bids are received or negotiations concluded.

§ 3.7.2 The Contractor shall comply with and give notices required by applicable laws, statutes, ordinances, codes, rules and regulations, and lawful orders of public authorities applicable to performance of the Work.

§ 3.7.3 If the Contractor performs Work knowing it to be contrary to applicable laws, statutes, ordinances, codes, rules and regulations, or lawful orders of public authorities, the Contractor shall assume appropriate responsibility for such Work and shall bear the costs attributable to correction.

§ 3.7.4 **Concealed or Unknown Conditions.** If the Contractor encounters conditions at the site that are (1) subsurface or otherwise concealed physical conditions that differ materially from those indicated in the Contract Documents or (2) unknown physical conditions of an unusual nature, that differ materially from those ordinarily found to exist and generally recognized as inherent in construction activities of the character provided for in the Contract Documents, the Contractor shall promptly provide notice to the Owner and the Architect before conditions are disturbed and in no event later than 21 days after first observance of the conditions. The Architect will promptly investigate such conditions and, if the Architect determines that they differ materially and cause an increase or decrease in the Contractor's cost of, or time required for, performance of any part of the Work, will recommend an equitable adjustment in the Contract Sum or Contract Time, or both. If the Architect determines that the conditions at the site are not materially different from those indicated in the Contract Documents and that no change in the terms of the Contract is justified, the Architect shall promptly notify the Owner and Contractor in writing, stating the reasons. If either party disputes the Architect's determination or recommendation, that party may proceed as provided in Article 15.

§ 3.7.5 If, in the course of the Work, the Contractor encounters human remains or recognizes the existence of burial markers, archaeological sites or wetlands not indicated in the Contract Documents, the Contractor shall immediately suspend any operations that would affect them and shall notify the Owner and Architect. Upon receipt of such notice, the Owner shall promptly take any action necessary to obtain governmental authorization required to resume the operations. The Contractor shall continue to suspend such operations until otherwise instructed by the Owner but shall continue with all other operations that do not affect those remains or features. Requests for adjustments in the Contract Sum and Contract Time arising from the existence of such remains or features may be made as provided in Article 15.

§ 3.8 ALLOWANCES

§ 3.8.1 The Contractor shall include in the Contract Sum all allowances stated in the Contract Documents. Items covered by allowances shall be supplied for such amounts and by such persons or entities as the Owner may direct, but the Contractor shall not be required to employ persons or entities to whom the Contractor has reasonable objection.

§ 3.8.2 Unless otherwise provided in the Contract Documents,

- .1 Allowances shall cover the cost to the Contractor of materials and equipment delivered at the site and all required taxes, less applicable trade discounts;
- .2 Contractor's costs for unloading and handling at the site, labor, installation costs, overhead, profit and other expenses contemplated for stated allowance amounts shall be included in the Contract Sum but not in the allowances; and
- .3 Whenever costs are more than or less than allowances, the Contract Sum shall be adjusted accordingly by Change Order. The amount of the Change Order shall reflect (1) the difference between actual costs and the allowances under Section 3.8.2.1 and (2) changes in Contractor's costs under Section 3.8.2.2.

§ 3.8.3 Materials and equipment under an allowance shall be selected by the Owner with reasonable promptness.

§ 3.9 SUPERINTENDENT

§ 3.9.1 The Contractor shall employ a competent superintendent and necessary assistants who shall be in attendance at the Project site during performance of the Work. The superintendent shall represent the Contractor, and communications given to the superintendent shall be as binding as if given to the Contractor.

§ 3.9.2 The Contractor, as soon as practicable after award of the Contract, shall furnish in writing to the Owner through the Architect the name and qualifications of a proposed superintendent. The Architect may reply within 14 days to the Contractor in writing stating (1) whether the Owner or the Architect has reasonable objection to the proposed superintendent or (2) that the Architect requires additional time to review. Failure of the Architect to reply within the 14 day period shall constitute notice of no reasonable objection.

§ 3.9.3 The Contractor shall not employ a proposed superintendent to whom the Owner or Architect has made reasonable and timely objection. The Contractor shall not change the superintendent without the Owner's consent, which shall not unreasonably be withheld or delayed.

§ 3.10 CONTRACTOR'S CONSTRUCTION SCHEDULES

§ 3.10.1 The Contractor, promptly after being awarded the Contract, shall prepare and submit for the Owner's and Architect's information a Contractor's construction schedule for the Work. The schedule shall not exceed time limits current under the Contract Documents, shall be revised at appropriate intervals as required by the conditions of the Work and Project, shall be related to the entire Project to the extent required by the Contract Documents, and shall provide for expeditious and practicable execution of the Work.

§ 3.10.2 The Contractor shall prepare a submittal schedule, promptly after being awarded the Contract and thereafter as necessary to maintain a current submittal schedule, and shall submit the schedule(s) for the Architect's approval. The Architect's approval shall not unreasonably be delayed or withheld. The submittal schedule shall (1) be coordinated with the Contractor's construction schedule, and (2) allow the Architect reasonable time to review submittals. If the Contractor fails to submit a submittal schedule, the Contractor shall not be entitled to any increase in Contract Sum or extension of Contract Time based on the time required for review of submittals.

§ 3.10.3 The Contractor shall perform the Work in general accordance with the most recent schedules submitted to the Owner and Architect.

§ 3.11 DOCUMENTS AND SAMPLES AT THE SITE

The Contractor shall maintain at the site for the Owner one copy of the Drawings, Specifications, Addenda, Change Orders and other Modifications, in good order and marked currently to indicate field changes and selections made during construction, and one copy of approved Shop Drawings, Product Data, Samples and similar required submittals. These shall be available to the Architect and shall be delivered to the Architect for submittal to the Owner upon completion of the Work as a record of the Work as constructed.

§ 3.12 SHOP DRAWINGS, PRODUCT DATA AND SAMPLES

§ 3.12.1 Shop Drawings are drawings, diagrams, schedules and other data specially prepared for the Work by the Contractor or a Subcontractor, Sub-subcontractor, manufacturer, supplier or distributor to illustrate some portion of the Work.

§ 3.12.2 Product Data are illustrations, standard schedules, performance charts, instructions, brochures, diagrams and other information furnished by the Contractor to illustrate materials or equipment for some portion of the Work.

§ 3.12.3 Samples are physical examples that illustrate materials, equipment or workmanship and establish standards by which the Work will be judged.

§ 3.12.4 Shop Drawings, Product Data, Samples and similar submittals are not Contract Documents. Their purpose is to demonstrate the way by which the Contractor proposes to conform to the information given and the design concept expressed in the Contract Documents for those portions of the Work for which the Contract Documents require submittals. Review by the Architect is subject to the limitations of Section 4.2.7. Informational submittals upon which the Architect is not expected to take responsive action may be so identified in the Contract Documents. Submittals that are not required by the Contract Documents may be returned by the Architect without action.

§ 3.12.5 The Contractor shall review for compliance with the Contract Documents, approve and submit to the Architect Shop Drawings, Product Data, Samples and similar submittals required by the Contract Documents in accordance with the submittal schedule approved by the Architect or, in the absence of an approved submittal schedule, with reasonable promptness and in such sequence as to cause no delay in the Work or in the activities of the Owner or of separate contractors.

§ 3.12.6 By submitting Shop Drawings, Product Data, Samples and similar submittals, the Contractor represents to the Owner and Architect that the Contractor has (1) reviewed and approved them, (2) determined and verified materials, field measurements and field construction criteria related thereto, or will do so and (3) checked and coordinated the information contained within such submittals with the requirements of the Work and of the Contract Documents.

§ 3.12.7 The Contractor shall perform no portion of the Work for which the Contract Documents require submittal and review of Shop Drawings, Product Data, Samples or similar submittals until the respective submittal has been approved by the Architect.

§ 3.12.8 The Work shall be in accordance with approved submittals except that the Contractor shall not be relieved of responsibility for deviations from requirements of the Contract Documents by the Architect's approval of Shop Drawings, Product Data, Samples or similar submittals unless the Contractor has specifically informed the Architect in writing of such deviation at the time of submittal and (1) the Architect has given written approval to the specific deviation as a minor change in the Work, or (2) a Change Order or Construction Change Directive has been issued authorizing the deviation. The Contractor shall not be relieved of responsibility for errors or omissions in Shop Drawings, Product Data, Samples or similar submittals by the Architect's approval thereof.

§ 3.12.9 The Contractor shall direct specific attention, in writing or on resubmitted Shop Drawings, Product Data, Samples or similar submittals, to revisions other than those requested by the Architect on previous submittals. In the absence of such written notice, the Architect's approval of a resubmission shall not apply to such revisions.

§ 3.12.10 The Contractor shall not be required to provide professional services that constitute the practice of architecture or engineering unless such services are specifically required by the Contract Documents for a portion of the Work or unless the Contractor needs to provide such services in order to carry out the Contractor's responsibilities for construction means, methods, techniques, sequences and procedures. The Contractor shall not be required to provide professional services in violation of applicable law. If professional design services or certifications by a design professional related to systems, materials or equipment are specifically required of the Contractor by the Contract Documents, the Owner and the Architect will specify all performance and design criteria that such services must satisfy. The Contractor shall cause such services or certifications to be provided by a properly licensed design professional, whose signature and seal shall appear on all drawings, calculations, specifications, certifications, Shop Drawings and other submittals prepared by such professional. Shop Drawings and other submittals related to the Work designed or certified by such professional, if prepared by others, shall bear such professional's written approval when submitted to the Architect. The Owner and the Architect shall be entitled to rely upon the adequacy, accuracy and

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completeness of the services, certifications and approvals performed or provided by such design professionals, provided the Owner and Architect have specified to the Contractor all performance and design criteria that such services must satisfy. Pursuant to this Section 3.12.10, the Architect will review, approve or take other appropriate action on submittals only for the limited purpose of checking for conformance with information given and the design concept expressed in the Contract Documents. The Contractor shall not be responsible for the adequacy of the performance and design criteria specified in the Contract Documents.

§ 3.13 USE OF SITE

The Contractor shall confine operations at the site to areas permitted by applicable laws, statutes, ordinances, codes, rules and regulations, and lawful orders of public authorities and the Contract Documents and shall not unreasonably encumber the site with materials or equipment.

§ 3.14 CUTTING AND PATCHING

§ 3.14.1 The Contractor shall be responsible for cutting, fitting or patching required to complete the Work or to make its parts fit together properly. All areas requiring cutting, fitting and patching shall be restored to the condition existing prior to the cutting, fitting and patching, unless otherwise required by the Contract Documents.

§ 3.14.2 The Contractor shall not damage or endanger a portion of the Work or fully or partially completed construction of the Owner or separate contractors by cutting, patching or otherwise altering such construction, or by excavation. The Contractor shall not cut or otherwise alter such construction by the Owner or a separate contractor except with written consent of the Owner and of such separate contractor; such consent shall not be unreasonably withheld. The Contractor shall not unreasonably withhold from the Owner or a separate contractor the Contractor's consent to cutting or otherwise altering the Work.

§ 3.15 CLEANING UP

§ 3.15.1 The Contractor shall keep the premises and surrounding area free from accumulation of waste materials or rubbish caused by operations under the Contract. At completion of the Work, the Contractor shall remove waste materials, rubbish, the Contractor's tools, construction equipment, machinery and surplus materials from and about the Project.

§ 3.15.2 If the Contractor fails to clean up as provided in the Contract Documents, the Owner may do so and Owner shall be entitled to reimbursement from the Contractor.

§ 3.16 ACCESS TO WORK

The Contractor shall provide the Owner and Architect access to the Work in preparation and progress wherever located.

§ 3.17 ROYALTIES, PATENTS AND COPYRIGHTS

The Contractor shall pay all royalties and license fees. The Contractor shall defend suits or claims for infringement of copyrights and patent rights and shall hold the Owner and Architect harmless from loss on account thereof, but shall not be responsible for such defense or loss when a particular design, process or product of a particular manufacturer or manufacturers is required by the Contract Documents, or where the copyright violations are contained in Drawings, Specifications or other documents prepared by the Owner or Architect. However, if the Contractor has reason to believe that the required design, process or product is an infringement of a copyright or a patent, the Contractor shall be responsible for such loss unless such information is promptly furnished to the Architect.

§ 3.18 INDEMNIFICATION

§ 3.18.1 To the fullest extent permitted by law the Contractor shall indemnify and hold harmless the Owner, Architect, Architect's consultants, and agents and employees of any of them from and against claims, damages, losses and expenses, including but not limited to attorneys' fees, arising out of or resulting from performance of the Work, provided that such claim, damage, loss or expense is attributable to bodily injury, sickness, disease or death, or to injury to or destruction of tangible property (other than the Work itself), but only to the extent caused by the negligent acts or omissions of the Contractor, a Subcontractor, anyone directly or indirectly employed by them or anyone for whose acts they may be liable, regardless of whether or not such claim, damage, loss or expense is caused in part by a party indemnified hereunder. Such obligation shall not be construed to negate, abridge, or reduce other rights or obligations of indemnity which would otherwise exist as to a party or person described in this Section 3.18.

§ 3.18.2 In claims against any person or entity indemnified under this Section 3.18 by an employee of the Contractor, a Subcontractor, anyone directly or indirectly employed by them or anyone for whose acts they may be liable, the indemnification obligation under Section 3.18.1 shall not be limited by a limitation on amount or type of damages, compensation or benefits payable by or for the Contractor or a Subcontractor under workers' compensation acts, disability benefit acts or other employee benefit acts.

ARTICLE 4 ARCHITECT

§ 4.1 GENERAL

§ 4.1.1 The Owner shall retain an architect lawfully licensed to practice architecture or an entity lawfully practicing architecture in the jurisdiction where the Project is located. That person or entity is identified as the Architect in the Agreement and is referred to throughout the Contract Documents as if singular in number.

§ 4.1.2 Duties, responsibilities and limitations of authority of the Architect as set forth in the Contract Documents shall not be restricted, modified or extended without written consent of the Owner, Contractor and Architect. Consent shall not be unreasonably withheld.

§ 4.1.3 If the employment of the Architect is terminated, the Owner shall employ a successor architect as to whom the Contractor has no reasonable objection and whose status under the Contract Documents shall be that of the Architect.

§ 4.2 ADMINISTRATION OF THE CONTRACT

§ 4.2.1 The Architect will provide administration of the Contract as described in the Contract Documents and will be an Owner's representative during construction until the date the Architect issues the final Certificate for Payment. The Architect will have authority to act on behalf of the Owner only to the extent provided in the Contract Documents.

§ 4.2.2 The Architect will visit the site at intervals appropriate to the stage of construction, or as otherwise agreed with the Owner, to become generally familiar with the progress and quality of the portion of the Work completed, and to determine in general if the Work observed is being performed in a manner indicating that the Work, when fully completed, will be in accordance with the Contract Documents. However, the Architect will not be required to make exhaustive or continuous on-site inspections to check the quality or quantity of the Work. The Architect will not have control over, charge of, or responsibility for, the construction means, methods, techniques, sequences or procedures, or for the safety precautions and programs in connection with the Work, since these are solely the Contractor's rights and responsibilities under the Contract Documents, except as provided in Section 3.3.1.

§ 4.2.3 On the basis of the site visits, the Architect will keep the Owner reasonably informed about the progress and quality of the portion of the Work completed, and report to the Owner (1) known 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. The Architect will not be responsible for the Contractor's failure to perform the Work in accordance with the requirements of the Contract Documents. The Architect will not have control over or charge of and will not be responsible for acts or omissions of the Contractor, Subcontractors, or their agents or employees, or any other persons or entities performing portions of the Work.

§ 4.2.4 COMMUNICATIONS FACILITATING CONTRACT ADMINISTRATION

Except as otherwise provided in the Contract Documents or when direct communications have been specially authorized, the Owner and Contractor shall endeavor to communicate with each other through the Architect about matters arising out of or relating to the Contract. Communications by and with the Architect's consultants shall be through the Architect. Communications by and with Subcontractors and material suppliers shall be through the Contractor. Communications by and with separate contractors shall be through the Owner.

§ 4.2.5 Based on the Architect's evaluations of the Contractor's Applications for Payment, the Architect will review and certify the amounts due the Contractor and will issue Certificates for Payment in such amounts.

§ 4.2.6 The Architect has authority to reject Work that does not conform to the Contract Documents. Whenever the Architect considers it necessary or advisable, the Architect will have authority to require inspection or testing of the Work in accordance with Sections 13.5.2 and 13.5.3, whether or not such Work is fabricated, installed or completed. However, neither this authority of the Architect nor a decision made in good faith either to exercise or not to exercise such authority shall give rise to a duty or responsibility of the Architect to the Contractor, Subcontractors, material and equipment suppliers, their agents or employees, or other persons or entities performing portions of the Work.

§ 4.2.7 The Architect will review and approve, or take other appropriate action upon, the Contractor's submittals such as Shop Drawings, Product Data and Samples, but only for the limited purpose of checking for conformance with information given and the design concept expressed in the Contract Documents. The Architect's action will be taken in accordance with the submittal schedule approved by the Architect or, in the absence of an approved submittal schedule, with reasonable promptness while allowing sufficient time in the Architect's professional judgment to permit adequate review. Review of such submittals is not conducted for the purpose of determining the accuracy and completeness of other details such as dimensions and quantities, or for substantiating instructions for installation or performance of equipment or systems, all of which remain the responsibility of the Contractor as required by the Contract Documents. The Architect's review of the Contractor's submittals shall not relieve the Contractor of the obligations under Sections 3.3, 3.5 and 3.12. The Architect's review shall not constitute approval of safety precautions or, unless otherwise specifically stated by the Architect, of any construction means, methods, techniques, sequences or procedures. The Architect's approval of a specific item shall not indicate approval of an assembly of which the item is a component.

§ 4.2.8 The Architect will prepare Change Orders and Construction Change Directives, and may authorize minor changes in the Work as provided in Section 7.4. The Architect will investigate and make determinations and recommendations regarding concealed and unknown conditions as provided in Section 3.7.4.

§ 4.2.9 The Architect will conduct inspections to determine the date or dates of Substantial Completion and the date of final completion; issue Certificates of Substantial Completion pursuant to Section 9.8; receive and forward to the Owner, for the Owner's review and records, written warranties and related documents required by the Contract and assembled by the Contractor pursuant to Section 9.10; and issue a final Certificate for Payment pursuant to Section 9.10.

§ 4.2.10 If the Owner and Architect agree, the Architect will provide one or more project representatives to assist in carrying out the Architect's responsibilities at the site. The duties, responsibilities and limitations of authority of such project representatives shall be as set forth in an exhibit to be incorporated in the Contract Documents.

§ 4.2.11 The Architect will interpret and decide matters concerning performance under, and requirements of, the Contract Documents on written request of either the Owner or Contractor. The Architect's response to such requests will be made in writing within any time limits agreed upon or otherwise with reasonable promptness.

§ 4.2.12 Interpretations and decisions of the Architect will be consistent with the intent of, and reasonably inferable from, the Contract Documents and will be in writing or in the form of drawings. When making such interpretations and decisions, the Architect will endeavor to secure faithful performance by both Owner and Contractor, will not show partiality to either and will not be liable for results of interpretations or decisions rendered in good faith.

§ 4.2.13 The Architect's decisions on matters relating to aesthetic effect will be final if consistent with the intent expressed in the Contract Documents.

§ 4.2.14 The Architect will review and respond to requests for information about the Contract Documents. The Architect's response to such requests will be made in writing within any time limits agreed upon or otherwise with reasonable promptness. If appropriate, the Architect will prepare and issue supplemental Drawings and Specifications in response to the requests for information.

ARTICLE 5 SUBCONTRACTORS

§ 5.1 DEFINITIONS

§ 5.1.1 A Subcontractor is a person or entity who has a direct contract with the Contractor to perform a portion of the Work at the site. The term "Subcontractor" is referred to throughout the Contract Documents as if singular in number and means a Subcontractor or an authorized representative of the Subcontractor. The term "Subcontractor" does not include a separate contractor or subcontractors of a separate contractor.

§ 5.1.2 A Sub-subcontractor is a person or entity who has a direct or indirect contract with a Subcontractor to perform a portion of the Work at the site. The term "Sub-subcontractor" is referred to throughout the Contract Documents as if singular in number and means a Sub-subcontractor or an authorized representative of the Sub-subcontractor.

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

§ 5.2.1 Unless otherwise stated in the Contract Documents or the bidding requirements, the Contractor, as soon as practicable after award of the Contract, shall furnish in writing to the Owner through the Architect the names of persons or entities (including those who are to furnish materials or equipment fabricated to a special design) proposed for each principal portion of the Work. The Architect may reply within 14 days to the Contractor in writing stating (1) whether the Owner or the Architect has reasonable objection to any such proposed person or entity or (2) that the Architect requires additional time for review. Failure of the Owner or Architect to reply within the 14 day period shall constitute notice of no reasonable objection.

§ 5.2.2 The Contractor shall not contract with a proposed person or entity to whom the Owner or Architect has made reasonable and timely objection. The Contractor shall not be required to contract with anyone to whom the Contractor has made reasonable objection.

§ 5.2.3 If the Owner or Architect has reasonable objection to a person or entity proposed by the Contractor, the Contractor shall propose another to whom the Owner or Architect has no reasonable objection. If the proposed but rejected Subcontractor was reasonably capable of performing the Work, the Contract Sum and Contract Time shall be increased or decreased by the difference, if any, occasioned by such change, and an appropriate Change Order shall be issued before commencement of the substitute Subcontractor's Work. However, no increase in the Contract Sum or Contract Time shall be allowed for such change unless the Contractor has acted promptly and responsively in submitting names as required.

§ 5.2.4 The Contractor shall not substitute a Subcontractor, person or entity previously selected if the Owner or Architect makes reasonable objection to such substitution.

§ 5.3 SUBCONTRACTUAL RELATIONS

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

§ 5.4 CONTINGENT ASSIGNMENT OF SUBCONTRACTS

§ 5.4.1 Each subcontract agreement for a portion of the Work is assigned by the Contractor to the Owner, provided that

- .1 assignment is effective only after termination of the Contract by the Owner for cause pursuant to Section 14.2 and only for those subcontract agreements that the Owner accepts by notifying the Subcontractor and Contractor in writing; and
- .2 assignment is subject to the prior rights of the surety, if any, obligated under bond relating to the Contract.

When the Owner accepts the assignment of a subcontract agreement, the Owner assumes the Contractor's rights and obligations under the subcontract.

§ 5.4.2 Upon such assignment, if the Work has been suspended for more than 30 days, the Subcontractor's compensation shall be equitably adjusted for increases in cost resulting from the suspension.

§ 5.4.3 Upon such assignment to the Owner under this Section 5.4, the Owner may further assign the subcontract to a successor contractor or other entity. If the Owner assigns the subcontract to a successor contractor or other entity, the

Owner shall nevertheless remain legally responsible for all of the successor contractor's obligations under the subcontract.

ARTICLE 6 CONSTRUCTION BY OWNER OR BY SEPARATE CONTRACTORS

§ 6.1 OWNER'S RIGHT TO PERFORM CONSTRUCTION AND TO AWARD SEPARATE CONTRACTS

§ 6.1.1 The Owner reserves the right to perform construction or operations related to the Project with the Owner's own forces, and to award separate contracts in connection with other portions of the Project or other construction or operations on the site under Conditions of the Contract identical or substantially similar to these including those portions related to insurance and waiver of subrogation. If the Contractor claims that delay or additional cost is involved because of such action by the Owner, the Contractor shall make such Claim as provided in Article 15.

§ 6.1.2 When separate contracts are awarded for different portions of the Project or other construction or operations on the site, the term "Contractor" in the Contract Documents in each case shall mean the Contractor who executes each separate Owner-Contractor Agreement.

§ 6.1.3 The Owner shall provide for coordination of the activities of the Owner's own forces and of each separate contractor with the Work of the Contractor, who shall cooperate with them. The Contractor shall participate with other separate contractors and the Owner in reviewing their construction schedules. The Contractor shall make any revisions to the construction schedule deemed necessary after a joint review and mutual agreement. The construction schedules shall then constitute the schedules to be used by the Contractor, separate contractors and the Owner until subsequently revised.

§ 6.1.4 Unless otherwise provided in the Contract Documents, when the Owner performs construction or operations related to the Project with the Owner's own forces, the Owner shall be deemed to be subject to the same obligations and to have the same rights that apply to the Contractor under the Conditions of the Contract, including, without excluding others, those stated in Article 3, this Article 6 and Articles 10, 11 and 12.

§ 6.2 MUTUAL RESPONSIBILITY

§ 6.2.1 The Contractor shall afford the Owner and separate contractors reasonable opportunity for introduction and storage of their materials and equipment and performance of their activities, and shall connect and coordinate the Contractor's construction and operations with theirs as required by the Contract Documents.

§ 6.2.2 If part of the Contractor's Work depends for proper execution or results upon construction or operations by the Owner or a separate contractor, the Contractor shall, prior to proceeding with that portion of the Work, promptly report to the Architect apparent discrepancies or defects in such other construction that would render it unsuitable for such proper execution and results. Failure of the Contractor so to report shall constitute an acknowledgment that the Owner's or separate contractor's completed or partially completed construction is fit and proper to receive the Contractor's Work, except as to defects not then reasonably discoverable.

§ 6.2.3 The Contractor shall reimburse the Owner for costs the Owner incurs that are payable to a separate contractor because of the Contractor's delays, improperly timed activities or defective construction. The Owner shall be responsible to the Contractor for costs the Contractor incurs because of a separate contractor's delays, improperly timed activities, damage to the Work or defective construction.

§ 6.2.4 The Contractor shall promptly remedy damage the Contractor wrongfully causes to completed or partially completed construction or to property of the Owner or separate contractors as provided in Section 10.2.5.

§ 6.2.5 The Owner and each separate contractor shall have the same responsibilities for cutting and patching as are described for the Contractor in Section 3.14.

§ 6.3 OWNER'S RIGHT TO CLEAN UP

If a dispute arises among the Contractor, separate contractors and the Owner as to the responsibility under their respective contracts for maintaining the premises and surrounding area free from waste materials and rubbish, the Owner may clean up and the Architect will allocate the cost among those responsible.

ARTICLE 7 CHANGES IN THE WORK

§ 7.1 GENERAL

§ 7.1.1 Changes in the Work may be accomplished after execution of the Contract, and without invalidating the Contract, by Change Order, Construction Change Directive or order for a minor change in the Work, subject to the limitations stated in this Article 7 and elsewhere in the Contract Documents.

§ 7.1.2 A Change Order shall be based upon agreement among the Owner, Contractor and Architect; a Construction Change Directive requires agreement by the Owner and Architect and may or may not be agreed to by the Contractor; an order for a minor change in the Work may be issued by the Architect alone.

§ 7.1.3 Changes in the Work shall be performed under applicable provisions of the Contract Documents, and the Contractor shall proceed promptly, unless otherwise provided in the Change Order, Construction Change Directive or order for a minor change in the Work.

§ 7.2 CHANGE ORDERS

§ 7.2.1 A Change Order is a written instrument prepared by the Architect and signed by the Owner, Contractor and Architect stating their agreement upon all of the following:

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

§ 7.3 CONSTRUCTION CHANGE DIRECTIVES

§ 7.3.1 A Construction Change Directive is a written order prepared by the Architect and signed by the Owner and Architect, directing a change in the Work prior to agreement on adjustment, if any, in the Contract Sum or Contract Time, or both. The Owner may by Construction Change Directive, without invalidating the Contract, order changes in the Work within the general scope of the Contract consisting of additions, deletions or other revisions, the Contract Sum and Contract Time being adjusted accordingly.

§ 7.3.2 A Construction Change Directive shall be used in the absence of total agreement on the terms of a Change Order.

§ 7.3.3 If the Construction Change Directive provides for an adjustment to the Contract Sum, the adjustment shall be based on one of the following methods:

- .1 Mutual acceptance of a lump sum properly itemized and supported by sufficient substantiating data to permit evaluation;
- .2 Unit prices stated in the Contract Documents or subsequently agreed upon;
- .3 Cost to be determined in a manner agreed upon by the parties and a mutually acceptable fixed or percentage fee; or
- .4 As provided in Section 7.3.7.

§ 7.3.4 If unit prices are stated in the Contract Documents or subsequently agreed upon, and if quantities originally contemplated are materially changed in a proposed Change Order or Construction Change Directive so that application of such unit prices to quantities of Work proposed will cause substantial inequity to the Owner or Contractor, the applicable unit prices shall be equitably adjusted.

§ 7.3.5 Upon receipt of a Construction Change Directive, the Contractor shall promptly proceed with the change in the Work involved and advise the Architect of the Contractor's agreement or disagreement with the method, if any, provided in the Construction Change Directive for determining the proposed adjustment in the Contract Sum or Contract Time.

§ 7.3.6 A Construction Change Directive signed by the Contractor indicates the Contractor's agreement therewith, including adjustment in Contract Sum and Contract Time or the method for determining them. Such agreement shall be effective immediately and shall be recorded as a Change Order.

§ 7.3.7 If the Contractor does not respond promptly or disagrees with the method for adjustment in the Contract Sum, the Architect shall determine 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

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for overhead and profit as set forth in the Agreement, or if no such amount is set forth in the Agreement, a reasonable amount. In such case, and also under Section 7.3.3.3, the Contractor shall keep and present, in such form as the Architect may prescribe, an itemized accounting together with appropriate supporting data. Unless otherwise provided in the Contract Documents, costs for the purposes of this Section 7.3.7 shall be limited to the following:

- .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;
- .4 Costs of premiums for all bonds and insurance, permit fees, and sales, use or similar taxes related to the Work; and
- .5 Additional costs of supervision and field office personnel directly attributable to the change.

§ 7.3.8 The amount of credit to be allowed by the Contractor to the Owner for a deletion or change that results in a net decrease in the Contract Sum shall be actual net cost as confirmed by the Architect. When both additions and credits covering related Work or substitutions are involved in a change, the allowance for overhead and profit shall be figured on the basis of net increase, if any, with respect to that change.

§ 7.3.9 Pending final determination of the total cost of a Construction Change Directive to the Owner, the Contractor may request payment for Work completed under the Construction Change Directive in Applications for Payment. The Architect will make an interim determination for purposes of monthly certification for payment for those costs and certify for payment the amount that the Architect determines, in the Architect's professional judgment, to be reasonably justified. The Architect's interim determination of cost shall adjust the Contract Sum on the same basis as a Change Order, subject to the right of either party to disagree and assert a Claim in accordance with Article 15.

§ 7.3.10 When the Owner and Contractor agree with a determination made by the Architect concerning the adjustments in the Contract Sum and Contract Time, or otherwise reach agreement upon the adjustments, such agreement shall be effective immediately and the Architect will prepare a Change Order. Change Orders may be issued for all or any part of a Construction Change Directive.

§ 7.4 MINOR CHANGES IN THE WORK

The Architect has authority to order minor changes in the Work not involving adjustment in the Contract Sum or extension of the Contract Time and not inconsistent with the intent of the Contract Documents. Such changes will be effected by written order signed by the Architect and shall be binding on the Owner and Contractor.

ARTICLE 8 TIME

§ 8.1 DEFINITIONS

§ 8.1.1 Unless otherwise provided, Contract Time is the period of time, including authorized adjustments, allotted in the Contract Documents for Substantial Completion of the Work.

§ 8.1.2 The date of commencement of the Work is the date established in the Agreement.

§ 8.1.3 The date of Substantial Completion is the date certified by the Architect in accordance with Section 9.8.

§ 8.1.4 The term "day" as used in the Contract Documents shall mean calendar day unless otherwise specifically defined.

§ 8.2 PROGRESS AND COMPLETION

§ 8.2.1 Time limits stated in the Contract Documents are of the essence of the Contract. By executing the Agreement the Contractor confirms that the Contract Time is a reasonable period for performing the Work.

§ 8.2.2 The Contractor shall not knowingly, except by agreement or instruction of the Owner in writing, prematurely commence operations on the site or elsewhere prior to the effective date of 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 insurance.

§ 8.2.3 The Contractor shall proceed expeditiously with adequate forces and shall achieve Substantial Completion within the Contract Time.

§ 8.3 DELAYS AND EXTENSIONS OF TIME

§ 8.3.1 If the Contractor is delayed at any time in the commencement or progress of the Work by 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 Contractor's control; or by delay authorized by the Owner pending mediation and arbitration; or by other causes that the Architect determines may justify delay, then the Contract Time shall be extended by Change Order for such reasonable time as the Architect may determine.

§ 8.3.2 Claims relating to time shall be made in accordance with applicable provisions of Article 15.

§ 8.3.3 This Section 8.3 does not preclude recovery of damages for delay by either party under other provisions of the Contract Documents.

ARTICLE 9 PAYMENTS AND COMPLETION

§ 9.1 CONTRACT SUM

The Contract Sum is stated in the Agreement and, including authorized adjustments, is the total amount payable by the Owner to the Contractor for performance of the Work under the Contract Documents.

§ 9.2 SCHEDULE OF VALUES

Where the Contract is based on a stipulated sum or Guaranteed Maximum Price, the Contractor shall submit to the Architect, before the first Application for Payment, 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.

§ 9.3 APPLICATIONS FOR PAYMENT

§ 9.3.1 At least ten days before the date established for each progress payment, the Contractor shall submit to the Architect an itemized Application for Payment prepared in accordance with the schedule of values, if required under Section 9.2, for completed portions of the Work. 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 if provided for in the Contract Documents.

§ 9.3.1.1 As provided in Section 7.3.9, such applications may include requests for payment on account of changes in the Work that have been properly authorized by Construction Change Directives, or by interim determinations of the Architect, but not yet included in Change Orders.

§ 9.3.1.2 Applications for Payment shall not include requests for payment for portions of the Work for which the Contractor does not intend to pay a Subcontractor or material supplier, unless such Work has been performed by others whom the Contractor intends to pay.

§ 9.3.2 Unless otherwise provided in the Contract Documents, payments shall not be made on account of materials and equipment delivered and suitably stored at the site for subsequent incorporation in the Work. Unless approved in advance by the Owner, payment may not similarly be made for materials and equipment suitably stored off the site at a location agreed upon in writing. Payment for materials and equipment stored on or off the site shall be conditioned upon compliance by the Contractor with procedures satisfactory to the Owner to establish the Owner's title to such materials and equipment or otherwise protect the Owner's interest, and shall include the costs of applicable insurance, storage and transportation to the site for such materials and equipment stored off the site.

§ 9.3.3 The Contractor warrants that title to all Work covered by an Application for Payment will pass to the Owner no later than the time of payment. The Contractor further warrants that upon submittal of an Application for Payment all Work for which Certificates for Payment have been previously issued and payments received from the Owner shall, to the best of the Contractor's knowledge, information and belief, be free and clear of liens, claims, security interests or

encumbrances in favor of the Contractor, Subcontractors, material suppliers, or other persons or entities making a claim by reason of having provided labor, materials and equipment relating to the Work.

§ 9.4 CERTIFICATES FOR PAYMENT

§ 9.4.1 The Architect will, within seven days after receipt of the Contractor's Application for Payment, either issue to the Owner a Certificate for Payment, with a copy to the Contractor, for such amount as the Architect determines is properly due, or notify the Contractor and Owner in writing of the Architect's reasons for withholding certification in whole or in part as provided in Section 9.5.1.

§ 9.4.2 The issuance of a Certificate for Payment will constitute a representation by the Architect to the Owner, based on the Architect's evaluation of the Work and the data comprising the Application for Payment, that, to the best of the Architect's knowledge, information and belief, the Work has progressed to the point indicated and that the quality of the Work is in accordance with the Contract Documents. The foregoing representations are subject to an evaluation of the Work for conformance with the Contract Documents upon Substantial Completion, to results of subsequent tests and inspections, to correction of minor deviations from the Contract Documents prior to completion and to specific qualifications expressed by the Architect. The issuance of a Certificate for Payment will further constitute a representation that the Contractor is entitled to payment in the amount certified. However, the issuance of a Certificate for Payment will not be a representation that the Architect has (1) made exhaustive or continuous on-site inspections to check the quality or quantity of the Work, (2) reviewed construction means, methods, techniques, sequences or procedures, (3) reviewed copies of requisitions received from Subcontractors and material suppliers and other data requested by the Owner to substantiate the Contractor's right to payment, or (4) made examination to ascertain how or for what purpose the Contractor has used money previously paid on account of the Contract Sum.

§ 9.5 DECISIONS TO WITHHOLD CERTIFICATION

§ 9.5.1 The Architect may withhold a Certificate for Payment in whole or in part, to the extent reasonably necessary to protect the Owner, if in the Architect's opinion the representations to the Owner required by Section 9.4.2 cannot be made. If the Architect is unable to certify payment in the amount of the Application, the Architect will notify the Contractor and Owner as provided in Section 9.4.1. If the Contractor and Architect cannot agree on a revised amount, the Architect will promptly issue a Certificate for Payment for the amount for which the Architect is able to make such representations to the Owner. The Architect may also withhold a Certificate for Payment or, because of subsequently discovered evidence, may nullify the whole or a part of a Certificate for Payment previously issued, to such extent as may be necessary in the Architect's opinion to protect the Owner from loss for which the Contractor is responsible, including loss resulting from acts and omissions described in Section 3.3.2, because of

- .1 defective Work not remedied;
- .2 third party claims filed or reasonable evidence indicating probable filing of such claims unless security acceptable to the Owner is provided by the Contractor;
- .3 failure of the Contractor to make payments properly to Subcontractors or for labor, materials or equipment;
- .4 reasonable evidence that the Work cannot be completed for the unpaid balance of the Contract Sum;
- .5 damage to the Owner or a separate contractor;
- .6 reasonable evidence that the Work will not be completed within the Contract Time, and that the unpaid balance would not be adequate to cover actual or liquidated damages for the anticipated delay; or
- .7 repeated failure to carry out the Work in accordance with the Contract Documents.

§ 9.5.2 When the above reasons for withholding certification are removed, certification will be made for amounts previously withheld.

§ 9.5.3 If the Architect withholds certification for payment under Section 9.5.1.3, the Owner may, at its sole option, issue joint checks to the Contractor and to any Subcontractor or material or equipment suppliers to whom the Contractor failed to make payment for Work properly performed or material or equipment suitably delivered. If the Owner makes payments by joint check, the Owner shall notify the Architect and the Architect will reflect such payment on the next Certificate for Payment.

§ 9.6 PROGRESS PAYMENTS

§ 9.6.1 After the Architect has issued a Certificate for Payment, the Owner shall make payment in the manner and within the time provided in the Contract Documents, and shall so notify the Architect.

§ 9.6.2 The Contractor shall pay each Subcontractor no later than seven days after receipt of payment from the Owner the amount to which the Subcontractor is entitled, reflecting percentages actually retained from payments to the Contractor on account of the Subcontractor's portion of the Work. The Contractor shall, by appropriate agreement with each Subcontractor, require each Subcontractor to make payments to Sub-subcontractors in a similar manner.

§ 9.6.3 The Architect will, on request, furnish to a Subcontractor, if practicable, information regarding percentages of completion or amounts applied for by the Contractor and action taken thereon by the Architect and Owner on account of portions of the Work done by such Subcontractor.

§ 9.6.4 The Owner has the right to request written evidence from the Contractor that the Contractor has properly paid Subcontractors and material and equipment suppliers amounts paid by the Owner to the Contractor for subcontracted Work. If the Contractor fails to furnish such evidence within seven days, the Owner shall have the right to contact Subcontractors to ascertain whether they have been properly paid. Neither the Owner nor Architect shall have an obligation to pay or to see to the payment of money to a Subcontractor, except as may otherwise be required by law.

§ 9.6.5 Contractor payments to material and equipment suppliers shall be treated in a manner similar to that provided in Sections 9.6.2, 9.6.3 and 9.6.4.

§ 9.6.6 A Certificate for Payment, a progress payment, or partial or entire use or occupancy of the Project by the Owner shall not constitute acceptance of Work not in accordance with the Contract Documents.

§ 9.6.7 Unless the Contractor provides the Owner with a payment bond in the full penal sum of the Contract Sum, payments received by the Contractor for Work properly performed by Subcontractors and suppliers shall be held by the Contractor for those Subcontractors or suppliers who performed Work or furnished materials, or both, under contract with the Contractor for which payment was made by the Owner. Nothing contained herein shall require money to be placed in a separate account and not commingled with money of the Contractor, shall create any fiduciary liability or tort liability on the part of the Contractor for breach of trust or shall entitle any person or entity to an award of punitive damages against the Contractor for breach of the requirements of this provision.

§ 9.7 FAILURE OF PAYMENT

If the Architect does not issue a Certificate for Payment, through no fault of the Contractor, within seven days after receipt of the Contractor's Application for Payment, or if the Owner does not pay the Contractor within seven days after the date established in the Contract Documents the amount certified by the Architect or awarded by binding dispute resolution, then the Contractor may, upon seven additional days' 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 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.

§ 9.8 SUBSTANTIAL COMPLETION

§ 9.8.1 Substantial Completion is the stage in the progress of the Work when the Work or designated portion thereof is sufficiently complete in accordance with the Contract Documents so that the Owner can occupy or utilize the Work for its intended use.

§ 9.8.2 When the Contractor considers that the Work, or a portion thereof which the Owner agrees to accept separately, is substantially complete, the Contractor shall prepare and submit to the Architect a comprehensive list of items to be completed or corrected prior to final payment. Failure to include an item on such list does not alter the responsibility of the Contractor to complete all Work in accordance with the Contract Documents.

§ 9.8.3 Upon receipt of the Contractor's list, the Architect will make an inspection to determine whether the Work or designated portion thereof is substantially complete. If the Architect's inspection discloses any item, whether or not included on the Contractor's list, which is not sufficiently complete in accordance with the Contract Documents so that the Owner can occupy or utilize the Work or designated portion thereof for its intended use, the Contractor shall, before issuance of the Certificate of Substantial Completion, complete or correct such item upon notification by the Architect. In such case, the Contractor shall then submit a request for another inspection by the Architect to determine Substantial Completion.

§ 9.8.4 When the Work or designated portion thereof is substantially complete, the Architect will prepare a Certificate of Substantial Completion that shall establish the date of Substantial Completion, shall establish responsibilities of the Owner and Contractor for security, maintenance, heat, utilities, damage to the Work and insurance, and shall fix the time within which the Contractor shall finish all items on the list accompanying the Certificate. Warranties required by the Contract Documents shall commence on the date of Substantial Completion of the Work or designated portion thereof unless otherwise provided in the Certificate of Substantial Completion.

§ 9.8.5 The Certificate of Substantial Completion shall be submitted to the Owner and Contractor for their written acceptance of responsibilities assigned to them in such Certificate. Upon such acceptance and consent of surety, if any, the Owner shall make payment of retainage applying to such Work or designated portion thereof. Such payment shall be adjusted for Work that is incomplete or not in accordance with the requirements of the Contract Documents.

§ 9.9 PARTIAL OCCUPANCY OR USE

§ 9.9.1 The Owner may occupy or use any completed or partially completed portion of the Work at any stage when such portion is designated by separate agreement with the Contractor, provided such occupancy or use is consented to by the insurer as required under Section 11.3.1.5 and authorized by public authorities having jurisdiction over the Project. Such partial occupancy or use may commence whether or not the portion is substantially complete, provided the Owner and Contractor have accepted in writing the responsibilities assigned to each of them for payments, retainage, if any, security, maintenance, heat, utilities, damage to the Work and insurance, and have agreed in writing concerning the period for correction of the Work and commencement of warranties required by the Contract Documents. When the Contractor considers a portion substantially complete, the Contractor shall prepare and submit a list to the Architect as provided under Section 9.8.2. Consent of the Contractor to partial occupancy or use shall not be unreasonably withheld. The stage of the progress of the Work shall be determined by written agreement between the Owner and Contractor or, if no agreement is reached, by decision of the Architect.

§ 9.9.2 Immediately prior to such partial occupancy or use, the Owner, Contractor and Architect shall jointly inspect the area to be occupied or portion of the Work to be used in order to determine and record the condition of the Work.

§ 9.9.3 Unless otherwise agreed upon, partial occupancy or use of a portion or portions of the Work shall not constitute acceptance of Work not complying with the requirements of the Contract Documents.

§ 9.10 FINAL COMPLETION AND FINAL PAYMENT

§ 9.10.1 Upon receipt of the Contractor's written notice that the Work is ready for final inspection and acceptance and upon receipt of a final Application for Payment, the Architect will promptly make such inspection 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.

§ 9.10.2 Neither final payment nor any remaining retained percentage shall become due until the Contractor submits to the Architect (1) an affidavit that payrolls, bills for materials and equipment, and other indebtedness connected with the Work for which the Owner or the Owner's property might be responsible or encumbered (less amounts withheld by Owner) have been paid or otherwise satisfied, (2) a certificate evidencing that insurance required by the Contract Documents to remain in force after final payment is currently in effect 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 and (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. If a Subcontractor refuses to furnish a release or waiver required by the Owner, the Contractor may furnish a bond satisfactory to the Owner to indemnify the Owner against such lien. If such lien remains unsatisfied after payments are made, the Contractor shall refund to the Owner all money that the Owner may be compelled to pay in discharging such lien, including all costs and reasonable attorneys' fees.

§ 9.10.3 If, after Substantial Completion of the Work, final completion thereof is materially delayed through no fault of the Contractor or by issuance of Change Orders affecting final completion, and the Architect so confirms, the Owner shall, upon application by the Contractor and certification by the Architect, and without terminating the Contract, make payment of the balance due for that portion of the Work fully completed and accepted. If the remaining balance for Work not fully completed or corrected is less than retainage stipulated in the Contract Documents, and if bonds have been furnished, the written consent of surety to payment of the balance due for that portion of the Work fully completed and accepted shall be submitted by the Contractor to the Architect prior to certification of such payment. Such payment shall be made under terms and conditions governing final payment, except that it shall not constitute a waiver of claims.

§ 9.10.4 The making of final payment shall constitute a waiver of Claims by the Owner except those arising from

- .1 liens, Claims, security interests or encumbrances arising out of the Contract and unsettled;
- .2 failure of the Work to comply with the requirements of the Contract Documents; or
- .3 terms of special warranties required by the Contract Documents.

§ 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 previously made in writing and identified by that payee as unsettled at the time of final Application for Payment.

ARTICLE 10 PROTECTION OF PERSONS AND PROPERTY

§ 10.1 SAFETY PRECAUTIONS AND PROGRAMS

The Contractor shall be responsible for initiating, maintaining and supervising all safety precautions and programs in connection with the performance of the Contract.

§ 10.2 SAFETY OF PERSONS AND PROPERTY

§ 10.2.1 The Contractor shall take reasonable precautions for safety of, and shall provide reasonable protection to prevent damage, injury or loss to

- .1 employees on the Work and other persons who may be affected thereby;
- .2 the Work and materials and equipment to be incorporated therein, whether in storage on or off the site, under care, custody or control of the Contractor or the Contractor's Subcontractors or Sub-subcontractors; and
- .3 other property at the site or adjacent thereto, such as trees, shrubs, lawns, walks, pavements, roadways, structures and utilities not designated for removal, relocation or replacement in the course of construction.

§ 10.2.2 The Contractor shall comply with and give notices required by applicable laws, statutes, ordinances, codes, rules and regulations, and lawful orders of public authorities bearing on safety of persons or property or their protection from damage, injury or loss.

§ 10.2.3 The Contractor shall erect and maintain, as required by existing conditions and performance of the Contract, reasonable safeguards for safety and protection, including posting danger signs and other warnings against hazards, promulgating safety regulations and notifying owners and users of adjacent sites and utilities.

§ 10.2.4 When use or storage of explosives or other hazardous materials or equipment or unusual methods are necessary for execution of the Work, the Contractor shall exercise utmost care and carry on such activities under supervision of properly qualified personnel.

§ 10.2.5 The Contractor shall promptly remedy damage and loss (other than damage or loss insured under property insurance required by the Contract Documents) to property referred to in Sections 10.2.1.2 and 10.2.1.3 caused in whole or in part by the Contractor, a Subcontractor, a Sub-subcontractor, or anyone directly or indirectly employed by any of them, or by anyone for whose acts they may be liable and for which the Contractor is responsible under Sections 10.2.1.2 and 10.2.1.3, except damage or loss attributable to acts or omissions of the Owner or Architect or anyone directly or indirectly employed by either of them, or by anyone for whose acts either of them may be liable, and not attributable to the fault or negligence of the Contractor. The foregoing obligations of the Contractor are in addition to the Contractor's obligations under Section 3.18.

§ 10.2.6 The Contractor shall designate a responsible member of the Contractor's organization at the site whose duty shall be the prevention of accidents. This person shall be the Contractor's superintendent unless otherwise designated by the Contractor in writing to the Owner and Architect.

§ 10.2.7 The Contractor shall not permit any part of the construction or site to be loaded so as to cause damage or create an unsafe condition.

§ 10.2.8 INJURY OR DAMAGE TO PERSON OR PROPERTY

If either party suffers injury or damage to person or property because of an act or omission of the other party, or of others for whose acts such party is legally responsible, written notice of such injury or damage, whether or not insured, shall be given to the other party within a reasonable time not exceeding 21 days after discovery. The notice shall provide sufficient detail to enable the other party to investigate the matter.

§ 10.3 HAZARDOUS MATERIALS

§ 10.3.1 The Contractor is responsible for compliance with any requirements included in the Contract Documents regarding hazardous materials. If the Contractor encounters a hazardous material or substance not addressed in the Contract Documents and if reasonable precautions will be inadequate to prevent foreseeable bodily injury or death to persons resulting from a material or substance, including but not limited to asbestos or polychlorinated biphenyl (PCB), encountered on the site by the Contractor, the Contractor shall, upon recognizing the condition, immediately stop Work in the affected area and report the condition to the Owner and Architect in writing.

§ 10.3.2 Upon receipt of the Contractor's written notice, the Owner shall obtain the services of a licensed laboratory to verify the presence or absence of the material or substance reported by the Contractor and, in the event such material or substance is found to be present, to cause it to be rendered harmless. Unless otherwise required by the Contract Documents, the Owner shall furnish in writing to the Contractor and Architect the names and qualifications of persons or entities who are to perform tests verifying the presence or absence of such material or substance or who are to perform the task of removal or safe containment of such material or substance. The Contractor and the Architect will promptly reply to the Owner in writing stating whether or not either has reasonable objection to the persons or entities proposed by the Owner. If either the Contractor or Architect has an objection to a person or entity proposed by the Owner, the Owner shall propose another to whom the Contractor and the Architect have no reasonable objection. When the material or substance has been rendered harmless, Work in the affected area shall resume upon written agreement of the Owner and Contractor. By Change Order, the Contract Time shall be extended appropriately and the Contract Sum shall be increased in the amount of the Contractor's reasonable additional costs of shut-down, delay and start-up.

§ 10.3.3 To the fullest extent permitted by law, the Owner shall indemnify and hold harmless the Contractor, Subcontractors, Architect, Architect's consultants and agents and employees of any of them from and against claims, damages, losses and expenses, including but not limited to attorneys' fees, arising out of or resulting from performance of the Work in the affected area if in fact the material or substance presents the risk of bodily injury or death as described in Section 10.3.1 and has not been rendered harmless, provided that such claim, damage, loss or expense is attributable to bodily injury, sickness, disease or death, or to injury to or destruction of tangible property (other than the Work itself), except to the extent that such damage, loss or expense is due to the fault or negligence of the party seeking indemnity.

§ 10.3.4 The Owner shall not be responsible under this Section 10.3 for materials or substances the Contractor brings to the site unless such materials or substances are required by the Contract Documents. The Owner shall be responsible for materials or substances required by the Contract Documents, except to the extent of the Contractor's fault or negligence in the use and handling of such materials or substances.

§ 10.3.5 The Contractor shall indemnify the Owner for the cost and expense the Owner incurs (1) for remediation of a material or substance the Contractor brings to the site and negligently handles, or (2) where the Contractor fails to perform its obligations under Section 10.3.1, except to the extent that the cost and expense are due to the Owner's fault or negligence.

§ 10.3.6 If, without negligence on the part of the Contractor, the Contractor is held liable by a government agency for the cost of remediation of a hazardous material or substance solely by reason of performing Work as required by the Contract Documents, the Owner shall indemnify the Contractor for all cost and expense thereby incurred.

§ 10.4 EMERGENCIES

In an emergency affecting safety of persons or property, the Contractor shall act, at the Contractor's discretion, to prevent threatened damage, injury or loss. Additional compensation or extension of time claimed by the Contractor on account of an emergency shall be determined as provided in Article 15 and Article 7.

ARTICLE 11 INSURANCE AND BONDS

§ 11.1 CONTRACTOR'S LIABILITY INSURANCE

§ 11.1.1 The Contractor shall purchase from and maintain in a company or companies lawfully authorized to do business in the jurisdiction in which the Project is located such insurance as will protect the Contractor from claims set forth below which may arise out of or result from the Contractor's operations and completed operations under the Contract and for which the Contractor may be legally liable, whether such operations be by the Contractor or by a Subcontractor or by anyone directly or indirectly employed by any of them, or by anyone for whose acts any of them may be liable:

- .1 Claims under workers' compensation, disability benefit and other similar employee benefit acts that are applicable to the Work to be performed;
- .2 Claims for damages because of bodily injury, occupational sickness or disease, or death of the Contractor's employees;
- .3 Claims for damages because of bodily injury, sickness or disease, or death of any person other than the Contractor's employees;
- .4 Claims for damages insured by usual personal injury liability coverage;
- .5 Claims for damages, other than to the Work itself, because of injury to or destruction of tangible property, including loss of use resulting therefrom;
- .6 Claims for damages because of bodily injury, death of a person or property damage arising out of ownership, maintenance or use of a motor vehicle;
- .7 Claims for bodily injury or property damage arising out of completed operations; and
- .8 Claims involving contractual liability insurance applicable to the Contractor's obligations under Section 3.18.

§ 11.1.2 The insurance required by Section 11.1.1 shall be written for not less than limits of liability specified in the Contract Documents or required by law, whichever coverage is greater. Coverages, whether written on an occurrence or claims-made basis, 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.

§ 11.1.3 Certificates of insurance acceptable to the Owner shall be filed with the Owner prior to commencement of the Work and thereafter upon renewal or replacement of each required policy of insurance. These certificates and the insurance policies required by this Section 11.1 shall contain a provision that coverages afforded under the policies will not be canceled or allowed to expire until at least 30 days' prior written notice has been given to the Owner. An additional certificate evidencing continuation of liability coverage, including coverage for completed operations, 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.

§ 11.1.4 The Contractor shall cause the commercial liability coverage required by the Contract Documents to include (1) the Owner, the Architect and the Architect's consultants as additional insureds for claims caused in whole or in part by the Contractor's negligent acts or omissions during the Contractor's operations; and (2) the Owner as an additional insured for claims caused in whole or in part by the Contractor's negligent acts or omissions during the Contractor's completed operations.

§ 11.2 OWNER'S LIABILITY INSURANCE

The Owner shall be responsible for purchasing and maintaining the Owner's usual liability insurance.

§ 11.3 PROPERTY INSURANCE

§ 11.3.1 Unless otherwise provided, the Owner 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 without optional deductibles. Such property insurance shall be maintained, unless otherwise provided in the Contract Documents or otherwise agreed in writing by all persons and entities who are beneficiaries of such insurance, until final payment has been made as provided in Section 9.10 or until no person or entity other than the Owner has an insurable interest in the property required by this Section 11.3 to be covered, whichever is later. This insurance shall include interests of the Owner, the Contractor, Subcontractors and Sub-subcontractors in the Project.

§ 11.3.1.1 Property insurance shall be on an "all-risk" or equivalent policy form and shall include, without limitation, insurance against the perils of fire (with extended coverage) and physical loss or damage including, without duplication of coverage, theft, vandalism, malicious mischief, collapse, earthquake, flood, windstorm, falsework, testing and startup, temporary buildings and debris removal including demolition occasioned by enforcement of any applicable legal requirements, and shall cover reasonable compensation for Architect's and Contractor's services and expenses required as a result of such insured loss.

§ 11.3.1.2 If the Owner does not intend to purchase such property insurance required by the Contract and with all of the coverages in the amount described above, the Owner shall so inform the Contractor in writing prior to commencement of the Work. The Contractor may then effect insurance that will protect the interests of the Contractor, Subcontractors and Sub-subcontractors in the Work, and by appropriate Change Order the cost thereof shall be charged to the Owner. If the Contractor is damaged by the failure or neglect of the Owner to purchase or maintain insurance as described above, without so notifying the Contractor in writing, then the Owner shall bear all reasonable costs properly attributable thereto.

§ 11.3.1.3 If the property insurance requires deductibles, the Owner shall pay costs not covered because of such deductibles.

§ 11.3.1.4 This property insurance shall cover portions of the Work stored off the site, and also portions of the Work in transit.

§ 11.3.1.5 Partial occupancy or use in accordance with Section 9.9 shall not commence until the insurance company or companies providing property insurance have consented to such partial occupancy or use by endorsement or otherwise. The Owner and the Contractor shall take reasonable steps to obtain consent of the insurance company or companies and shall, without mutual written consent, take no action with respect to partial occupancy or use that would cause cancellation, lapse or reduction of insurance.

§ 11.3.2 BOILER AND MACHINERY INSURANCE

The Owner 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 be named insureds.

§ 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. 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.

§ 11.3.4 If the Contractor 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 Owner shall, if possible, include such insurance, and the cost thereof shall be charged to the Contractor by appropriate Change Order.

§ 11.3.5 If during the Project construction period the Owner insures properties, real or personal or both, at or adjacent to the site by property insurance under policies separate from those insuring the Project, or if after final payment

property insurance is to be provided on the completed Project through a policy or policies other than those insuring the Project during the construction period, the Owner shall waive all rights in accordance with the terms of Section 11.3.7 for damages caused by fire or other causes of loss covered by this separate property insurance. All separate policies shall provide this waiver of subrogation by endorsement or otherwise.

§ 11.3.6 Before an exposure to loss may occur, the Owner shall file with the Contractor 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 Contractor.

§ 11.3.7 WAIVERS OF SUBROGATION

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 covered by property insurance obtained pursuant to this Section 11.3 or other property insurance applicable to the Work, except such rights as they have to proceeds of such insurance held by the Owner as fiduciary. The Owner or Contractor, as appropriate, shall require of the Architect, Architect's consultants, separate contractors described in Article 6, if any, and the subcontractors, sub-subcontractors, agents and employees of any of them, by appropriate agreements, written where legally required for validity, similar waivers each in favor of other parties enumerated herein. The policies shall provide such waivers of subrogation by endorsement or otherwise. A waiver of subrogation shall be effective as to a person or entity even though that person or entity would otherwise have a duty of indemnification, contractual or otherwise, did not pay the insurance premium directly or indirectly, and whether or not the person or entity had an insurable interest in the property damaged.

§ 11.3.8 A loss insured under the Owner's property insurance shall be adjusted by the Owner as fiduciary and made payable to the Owner as fiduciary for the insureds, as their interests may appear, subject to requirements of any applicable mortgagee clause and of Section 11.3.10. The Contractor shall pay Subcontractors their just shares of insurance proceeds received by the Contractor, and by appropriate agreements, written where legally required for validity, shall require Subcontractors to make payments to their Sub-subcontractors in similar manner.

§ 11.3.9 If required in writing by a party in interest, the Owner as fiduciary shall, upon occurrence of an insured loss, give bond for proper performance of the Owner's duties. The cost of required bonds shall be charged against proceeds received as fiduciary. The Owner shall deposit in a separate account proceeds so received, which the Owner shall distribute in accordance with such agreement as the parties in interest may reach, or as determined in accordance with the method of binding dispute resolution selected in the Agreement between the Owner and Contractor. 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 after notification of a Change in the Work in accordance with Article 7.

§ 11.3.10 The Owner 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 Owner's exercise of this power; if such objection is made, the dispute shall be resolved in the manner selected by the Owner and Contractor as the method of binding dispute resolution in the Agreement. If the Owner and Contractor have selected arbitration as the method of binding dispute resolution, the Owner as fiduciary shall make settlement with insurers or, in the case of a dispute over distribution of insurance proceeds, in accordance with the directions of the arbitrators.

§ 11.4 PERFORMANCE BOND AND PAYMENT BOND

§ 11.4.1 The Owner shall have the right to require the Contractor to furnish bonds covering faithful performance of the Contract and payment of obligations arising thereunder as stipulated in bidding requirements or specifically required in the Contract Documents on the date of execution of the Contract.

§ 11.4.2 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.

ARTICLE 12 UNCOVERING AND CORRECTION OF WORK

§ 12.1 UNCOVERING OF WORK

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

§ 12.1.2 If a portion of the Work has been covered that the Architect has not specifically requested to examine prior to its being covered, the Architect may request to see such Work and it shall be uncovered by the Contractor. If such Work is in accordance with the Contract Documents, costs of uncovering and replacement shall, by appropriate Change Order, be at the Owner's expense. If such Work is not in accordance with the Contract Documents, such costs and the cost of correction shall be at the Contractor's expense unless the condition was caused by the Owner or a separate contractor in which event the Owner shall be responsible for payment of such costs.

§ 12.2 CORRECTION OF WORK

§ 12.2.1 BEFORE OR AFTER SUBSTANTIAL COMPLETION

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

§ 12.2.2 AFTER SUBSTANTIAL COMPLETION

§ 12.2.2.1 In addition to the Contractor's obligations under Section 3.5, if, within one year after the date of Substantial Completion of the Work or designated portion thereof or after the date for commencement of warranties established under Section 9.9.1, or by terms of an applicable special warranty required by the Contract Documents, any of the Work is found to be not in accordance with the requirements of the Contract Documents, the Contractor shall correct it promptly after receipt of written notice from the Owner to do so unless the Owner has previously given the Contractor a written acceptance of such condition. The Owner shall give such notice promptly after discovery of the condition. During the one-year period for correction of Work, if the Owner fails to notify the Contractor and give the Contractor an opportunity to make the correction, the Owner waives the rights to require correction by the Contractor and to make a claim for breach of warranty. If the Contractor fails to correct nonconforming Work within a reasonable time during that period after receipt of notice from the Owner or Architect, the Owner may correct it in accordance with Section 2.4.

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

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

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

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

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

§ 12.3 ACCEPTANCE OF NONCONFORMING WORK

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

ARTICLE 13 MISCELLANEOUS PROVISIONS

§ 13.1 GOVERNING LAW

The Contract shall be governed by the law of the place where the Project is located except that, if the parties have selected arbitration as the method of binding dispute resolution, the Federal Arbitration Act shall govern Section 15.4.

§ 13.2 SUCCESSORS AND ASSIGNS

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

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

§ 13.3 WRITTEN NOTICE

Written notice shall be deemed to have been duly served if delivered in person to the individual, to a member of the firm or entity, or to an officer of the corporation for which it was intended; or if delivered at, or sent by registered or certified mail or by courier service providing proof of delivery to, the last business address known to the party giving notice.

§ 13.4 RIGHTS AND REMEDIES

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

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

§ 13.5 TESTS AND INSPECTIONS

§ 13.5.1 Tests, inspections and approvals of portions of the Work shall be made as required by the Contract Documents and by applicable laws, statutes, ordinances, codes, rules and regulations or lawful orders of public authorities. Unless otherwise provided, the Contractor shall make arrangements for such tests, inspections and approvals with an independent testing laboratory or entity acceptable to the Owner, or with the appropriate public authority, and shall bear all related costs of tests, inspections and approvals. The Contractor shall give the Architect timely notice of when and where tests and inspections are to be made so that the Architect may be present for such procedures. The Owner shall bear costs of (1) tests, inspections or approvals that do not become requirements until after bids are received or negotiations concluded, and (2) tests, inspections or approvals where building codes or applicable laws or regulations prohibit the Owner from delegating their cost to the Contractor.

§ 13.5.2 If the Architect, Owner or public authorities having jurisdiction determine that portions of the Work require additional testing, inspection or approval not included under Section 13.5.1, the Architect will, upon written authorization from the Owner, instruct the Contractor to make arrangements for such additional testing, inspection or approval by an entity acceptable to the Owner, and the Contractor shall give timely notice to the Architect of when and where tests and inspections are to be made so that the Architect may be present for such procedures. Such costs, except as provided in Section 13.5.3, shall be at the Owner's expense.

§ 13.5.3 If such procedures for testing, inspection or approval under Sections 13.5.1 and 13.5.2 reveal failure of the portions of the Work to comply with requirements established by the Contract Documents, all costs made necessary by

such failure including those of repeated procedures and compensation for the Architect's services and expenses shall be at the Contractor's expense.

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

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

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

§ 13.6 INTEREST

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

§ 13.7 TIME LIMITS ON CLAIMS

The Owner and Contractor shall commence all claims and causes of action, whether in contract, tort, breach of warranty or otherwise, against the other arising out of or related to the Contract in accordance with the requirements of the final dispute resolution method selected in the Agreement within the time period specified by applicable law, but in any case not more than 10 years after the date of Substantial Completion of the Work. The Owner and Contractor waive all claims and causes of action not commenced in accordance with this Section 13.7.

ARTICLE 14 TERMINATION OR SUSPENSION OF THE CONTRACT

§ 14.1 TERMINATION BY THE CONTRACTOR

§ 14.1.1 The Contractor may terminate the Contract if the Work is stopped for a period of 30 consecutive days through no act or fault of the Contractor 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 all Work to be stopped;
- .2 An act of government, such as a declaration of national emergency that requires all Work to be stopped;
- .3 Because the Architect has not issued a Certificate for Payment and has not notified the Contractor of the reason for withholding certification as provided in Section 9.4.1, or because the Owner has not made payment on a Certificate for Payment within the time stated in the Contract Documents; or
- .4 The Owner has failed to furnish to the Contractor promptly, upon the Contractor's request, reasonable evidence as required by Section 2.2.1.

§ 14.1.2 The Contractor may terminate the Contract if, 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, repeated suspensions, delays or interruptions of the entire Work by the Owner as described in Section 14.3 constitute in the aggregate more than 100 percent of the total number of days scheduled for completion, or 120 days in any 365-day period, whichever is less.

§ 14.1.3 If one of the reasons described in Section 14.1.1 or 14.1.2 exists, the Contractor may, upon seven days' written notice to the Owner and Architect, terminate the Contract and recover from the Owner payment for Work executed, including reasonable overhead and profit, costs incurred by reason of such termination, and damages.

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

§ 14.2 TERMINATION BY THE OWNER FOR CAUSE

§ 14.2.1 The Owner may terminate the Contract if the Contractor

- .1 repeatedly refuses or fails to supply enough properly skilled workers or proper materials;
- .2 fails to make payment to Subcontractors for materials or labor in accordance with 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.

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

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

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

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

§ 14.3 SUSPENSION BY THE OWNER FOR CONVENIENCE

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

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

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

§ 14.4 TERMINATION BY THE OWNER FOR CONVENIENCE

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

§ 14.4.2 Upon receipt of 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; and
- .3 except for Work directed to be performed prior to the effective date of termination stated in the notice, terminate all existing subcontracts and purchase orders and enter into no further subcontracts and purchase orders.

§ 14.4.3 In case of such termination for the Owner's convenience, the Contractor shall be entitled to receive payment for Work executed, and costs incurred by reason of such termination, along with reasonable overhead and profit on the Work not executed.

ARTICLE 15 CLAIMS AND DISPUTES

§ 15.1 CLAIMS

§ 15.1.1 DEFINITION

A Claim is a demand or assertion by one of the parties seeking, as a matter of right, payment of money, or other relief with respect to the terms of the Contract. The term "Claim" also includes other disputes and matters in question between the Owner and Contractor arising out of or relating to the Contract. The responsibility to substantiate Claims shall rest with the party making the Claim.

§ 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 Initial Decision Maker with a copy sent to the Architect, if the Architect is not serving as the Initial Decision Maker. Claims by either party 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.

§ 15.1.3 CONTINUING CONTRACT PERFORMANCE

Pending final resolution of a Claim, except as otherwise agreed in writing or as provided in Section 9.7 and Article 14, the Contractor shall proceed diligently with performance of the Contract and the Owner shall continue to make payments in accordance with the Contract Documents. The Architect will prepare Change Orders and issue Certificates for Payment in accordance with the decisions of the Initial Decision Maker.

§ 15.1.4 CLAIMS FOR ADDITIONAL COST

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

§ 15.1.5 CLAIMS FOR ADDITIONAL TIME

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

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

§ 15.1.6 CLAIMS FOR CONSEQUENTIAL DAMAGES

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

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

This mutual waiver is applicable, without limitation, to all consequential damages due to either party's termination in accordance with Article 14. Nothing contained in this Section 15.1.6 shall be deemed to preclude an award of liquidated damages, when applicable, in accordance with the requirements of the Contract Documents.

§ 15.2 INITIAL DECISION

§ 15.2.1 Claims, excluding those arising under Sections 10.3, 10.4, 11.3.9, and 11.3.10, shall be referred to the Initial Decision Maker for initial decision. The Architect will serve as the Initial Decision Maker, unless otherwise indicated in the Agreement. Except for those Claims excluded by this Section 15.2.1, an initial decision shall be required as a condition precedent to mediation of any Claim arising prior to the date final payment is due, unless 30 days have passed after the Claim has been referred to the Initial Decision Maker with no decision having been rendered. Unless the Initial Decision Maker and all affected parties agree, the Initial Decision Maker will not decide disputes between the Contractor and persons or entities other than the Owner.

Init.

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

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

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

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

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

§ 15.2.6.1 Either party may, within 30 days from the date of an initial decision, demand in writing that the other party file for mediation within 60 days of the initial decision. If such a demand is made and the party receiving the demand fails to file for mediation within the time required, then both parties waive their rights to mediate or pursue binding dispute resolution proceedings with respect to the initial decision.

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

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

§ 15.3 MEDIATION

§ 15.3.1 Claims, disputes, or other matters in controversy arising out of or related to the Contract except those waived as provided for in Sections 9.10.4, 9.10.5, and 15.1.6 shall be subject to mediation as a condition precedent to binding dispute resolution.

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

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

§ 15.4 ARBITRATION

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

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

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

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

§ 15.4.4 CONSOLIDATION OR JOINDER

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

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

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

Additions and Deletions Report for **AIA® Document A201™ – 2007**

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

Note: This Additions and Deletions Report is provided for information purposes only and is not incorporated into or constitute any part of the associated AIA document. This Additions and Deletions Report and its associated document were generated simultaneously by AIA software at 13:30:11 on 10/05/2011.

PAGE 1

Red Doe Exterior Stabilization
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Florence County
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843-229-1036

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§ 9.3.2 Unless otherwise provided in the Contract Documents, payments shall not be made on account of materials and equipment delivered and suitably stored at the site for subsequent incorporation in the Work. ~~If~~Unless approved in advance by the Owner, payment may not similarly be made for materials and equipment suitably stored off the site at a location agreed upon in writing. Payment for materials and equipment stored on or off the site shall be conditioned upon compliance by the Contractor with procedures satisfactory to the Owner to establish the Owner's title to such materials and equipment or otherwise protect the Owner's interest, and shall include the costs of applicable insurance, storage and transportation to the site for such materials and equipment stored off the site.

Certification of Document's Authenticity

AIA® Document D401™ – 2003

I, Richard A. Starks , hereby certify, to the best of my knowledge, information and belief, that I created the attached final document simultaneously with its associated Additions and Deletions Report and this certification at 14:26:16 on 08/16/2011 under Order No. 2253738924_1 from AIA Contract Documents software and that in preparing the attached final document I made no changes to the original text of AIA® Document A201™ – 2007 - General Conditions of the Contract for Construction, as published by the AIA in its software, other than those additions and deletions shown in the associated Additions and Deletions Report.

(Signed)

(Title)

(Dated)

STANDARD SUPPLEMENTARY CONDITIONS TO AIA A201 2007 GENERAL CONDITIONS OF THE CONTRACT FOR CONSTRUCTION

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 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 these 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.

STANDARD SUPPLEMENTARY CONDITIONS TO AIA A201 2007 GENERAL CONDITIONS OF THE CONTRACT FOR CONSTRUCTION

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.

STANDARD SUPPLEMENTARY CONDITIONS TO AIA A201 2007 GENERAL CONDITIONS OF THE CONTRACT FOR CONSTRUCTION

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 under Section 3.8.2.1, as documented by invoices, and the allowance amounts.

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 and Architect. Neither the Contractor nor subcontractor at any tier shall submit the fire sprinkler shop drawings directly to the State Fire Marshal or other authorities having jurisdiction for approval.

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

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

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

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3.29 Add the following Sections 3.13.2 and 3.13.3:

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

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

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

including loss of use resulting therefrom,

3.31 *Delete Section 4.1.1 and substitute the following:*

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

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

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

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

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

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

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

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

Work completed and correlated with the

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

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

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

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

3.38 *Delete Section 4.2.14 and substitute the following:*

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

3.39 *Delete Section 5.2.1 and substitute the following:*

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

3.40 *Delete Section 5.2.2 and substitute the following:*

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

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

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

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

3.43 *Add the following Section 5.2.5:*

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

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

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

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

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

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

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

3.45 *Delete the last sentence of Section 5.4.1.*

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

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

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

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

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

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

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

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 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 Florence County Building Inspections Department. The Owner, Architect, and Contractor shall be present at the County's inspection. Upon verifying that the Work or a portion of the Work is substantially complete and safe to occupy, the County 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 County Building Inspections has not previously issued a Certificate of Occupancy for the entire Project, the Parties shall arrange for a representative of Building Inspection Department to participate in the Final Completion Inspection. Representatives of the State Fire Marshal's Office and other authorities having jurisdiction may be present at the Final Completion Inspection or otherwise inspect the completed Work and advise the Owner whether the Work meets their respective requirements for the Project.

3.75 Delete Section 10.3.1 and substitute the following:

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

3.76 Insert the following at the end of Section 10.3.2:

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

3.77 Delete Section 10.3.3 and substitute the following:

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

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

In addition to its obligations under Section 3.18, the

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

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

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

3.81 *Delete 11.1.2 and substitute the following:*

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

(1) COMMERCIAL GENERAL LIABILITY:

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

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

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

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

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

3.82 *Delete Section 11.1.3 and substitute the following:*

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

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

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

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

3.83 *Delete Section 11.1.4 and substitute the following:*

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

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

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

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

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

3.87 *Delete Section 11.3.2 and substitute the following:*

11.3.2 BOILER AND MACHINERY INSURANCE

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

3.88 *Delete Section 11.3.3 and substitute the following:*

11.3.3 LOSS OF USE INSURANCE

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

3.89 *Delete Section 11.3.4 and substitute the following:*

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

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

3.91 *Delete Section 11.3.6 and substitute the following:*

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

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

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

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

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

3.94 Delete Section 11.3.9 and substitute the following:

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

3.95 Delete Section 11.3.10 and substitute the following:

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

3.96 Delete Section 11.4.1 and substitute the following:

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

3.97 Delete Section 11.4.2 and substitute the following:

11.4.2 The Performance and Labor and Material Payment Bonds shall:

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

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3.98 *Add the following Sections 11.4.3 and 11.4.4:*

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

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

3.99 *Delete Section 12.1.1 and substitute the following:*

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

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

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

unless otherwise provided in the Contract Documents.

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

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

3.103 *Delete Section 13.1 and substitute the following:*

13.1 GOVERNING LAW

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

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

13.2 SUCCESSORS AND ASSIGNS

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

3.105 *Delete Section 13.3 and substitute the following:*

13.3 WRITTEN NOTICE

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

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

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

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

Unless expressly provided otherwise,

- 3.107** *Add the following Section 13.4.3:*

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

- 1.5 Ownership and Use of Drawings, Specifications and Other Instruments of Service;
- 3.5 Warranty
- 3.17 Royalties, Patents and Copyrights
- 3.18 Indemnification
- 7.6 Cost or Pricing Data
- 11.1 Contractor's Liability Insurance
- 11.4 Performance and Payment Bond
- 15.1.6 Claims for Listed Damages
- 15.1.7 Waiver of Claims Against the Architect
- 15.6 Dispute Resolution
- 15.4 Service of Process

- 3.108** *Delete Section 13.6 and substitute the following:*

13.6 INTEREST

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

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

- 3.110** *Add the following Sections 13.8 through 13.16:*

13.8 PROCUREMENT OF MATERIALS BY OWNER

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

13.9 INTERPRETATION OF BUILDING CODES

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

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13.10 MINORITY BUSINESS ENTERPRISES

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

13.11 SEVERABILITY

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

13.12 ILLEGAL IMMIGRATION

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

13.13 SETOFF

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

13.14 DRUG-FREE WORKPLACE

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

13.15 FALSE CLAIMS

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

13.16 NON-INDEMNIFICATION:

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

3.111 *Delete Section 14.1.1 and substitute the following:*

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

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

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

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

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

3.113 *In Section 14.1.4, replace the word "repeatedly" with the word "persistently."*

3.114 *Delete Section 14.2.1 and substitute the following:*

14.2.1 The Owner may terminate the Contract if the Contractor

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

3.115 *In Section 14.2.2, delete the parenthetical statement " , upon certification by the Initial Decision Maker that sufficient cause exists to justify such action," immediately following the word "Owner" in the first line.*

3.116 *In Section 14.2.4, replace the words "Initial Decision Maker" with the word "Architect"*

3.117 *Add the following Section 14.2.5:*

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

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

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

3.119 *Delete Section 14.4.1 and substitute the following:*

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

3.120 *Delete Section 14.4.2 and substitute the following:*

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

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

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

3.121 *Delete Section 14.4.3 and substitute the following:*

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

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

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

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

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

14.5 CANCELLATION AFTER AWARD BUT PRIOR TO PERFORMANCE

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

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

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

3.124 *Delete Section 15.1.2 and substitute the following:*

15.1.2 NOTICE OF CLAIMS

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

3.125 *Delete Section 15.1.3 and substitute the following:*

15.1.3 CONTINUING CONTRACT PERFORMANCE

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

STANDARD SUPPLEMENTARY CONDITIONS TO AIA A201 2007 GENERAL CONDITIONS OF THE CONTRACT FOR CONSTRUCTION

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

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

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

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

3.128 *Delete Section 15.1.6 and substitute the following:*

15.1.6 CLAIMS FOR LISTED DAMAGES

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

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

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

3.129 *Add the following Section 15.1.7:*

15.1.7 WAIVER OF CLAIMS AGAINST THE ARCHITECT

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

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

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

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

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

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

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

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

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

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

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

15.6 DISPUTE RESOLUTION

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

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

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

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

15.6.5 SERVICE OF PROCESS

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

3.132 *Add the following Article 16:*

ARTICLE 16 PROJECT-SPECIFIC REQUIREMENTS AND INFORMATION

16.1. Inspection Requirements: *(Indicate the inspection services required by the Contract)*

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

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

Remarks: _____

STANDARD SUPPLEMENTARY CONDITIONS TO AIA A201 2007 GENERAL CONDITIONS OF THE CONTRACT FOR CONSTRUCTION

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)*

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

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)*

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)*

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

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

PERFORMANCE BOND REQUIREMENT

A Performance Bond must be submitted to the County by the successful responder ("Contractor") once it has been awarded the contract. The Performance Bond insures that the project will be completed even if the prime Contractor defaults or abandons the project. A Performance Bond guarantees contract performance by the Contractor, according to the contract specifications, terms and conditions. The Performance Bond requirement helps assure that the Contractor provides suitable evidence of its financial condition and ability to complete the project without financial difficulty. The cost to obtain the bond is the contractor's responsibility and should be considered in their bid.

A Performance Bond in the amount of one hundred percent (100%) of the contract price must be submitted by the Contractor at the time of execution of the contract with the County. The performance bond must be executed by a corporate surety licensed under the laws of this state. Failure to satisfy this Performance Bond requirement will result in the Contractor being considered non-responsive and possibly removed from consideration for award of future County contracts.

Sample Performance Bond

KNOW ALL PERSONS BY THESE PRESENTS THAT

(Insert full name or legal title and address of Contractor)

hereinafter referred to as "Contractor", and

(Insert full name and address of principal place of business of Surety)

a corporation duly organized and existing under the laws of the State of _____, with its principal office in the City of _____; and authorized to transact business in this State, hereinafter called the "Surety", are jointly and severally held and firmly bound unto

(Insert full name and address of Agency)

Or its successors or assigns, hereinafter referred to as "Agency", to which payment to be well and truly made, the sum of \$ _____, being the sum of the Bond, 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

Red Doe Plantation Exterior Stabilization Project

in accordance with Drawings and Specifications prepared by: Tony Gibson, AIA, 121 Cashua Drive, Florence, SC 29501.

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

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

DATED this _____ day of _____, **BOND NUMBER** _____

CONTRACTOR

SURETY

(Contractor's Name)

(Surety's Name)

BY: _____
(Signature and Title)

BY: _____
(Signature and Title)

ATTEST: _____
(Signature and Title)

ATTEST: _____
(Signature and Title)

Performance Bond

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

11. Definitions

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

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

LABOR AND MATERIAL PAYMENT BOND REQUIREMENT

A Payment Bond must be submitted to the County by the successful responder ("Contractor") once it has been awarded the contract. Payment Bonds encompass the prime Contractor's obligation to pay subcontractor and others for material and labor used in the project. A Payment Bond guarantees that the Contractor will pay certain bills for labor and materials (including those from subcontractors and suppliers), which are associated with the subject contract. The Payment Bond requirement helps assure that the Contractor provides suitable evidence of its financial condition and ability to complete the project without financial difficulty. The cost to obtain the bond is the contractor's responsibility and should be considered in their bid.

A Payment Bond in the amount of one hundred percent (100%) of the contract price must be submitted by the Contractor at the time of execution of the contract with the County. The payment bond must be executed by a corporate surety licensed under the laws of this state. Failure to satisfy this Payment Bond requirement will result in the Contractor being considered non-responsive and possibly removed from consideration for award of future County contracts.

Sample Labor and Material Bond

KNOW ALL PERSONS BY THESE PRESENTS THAT

(Insert full name or legal title and address of Contractor)

hereinafter referred to as "Contractor", and

(Insert full name and address of principal place of business of Surety)

a corporation duly organized and existing under the laws of the State of _____, with its principal office in the City of _____; and authorized to transact business in this State, hereinafter called the "Surety", are jointly and severally held and firmly bound unto

(Insert full name and address of Agency)

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

Red Doe Plantation Exterior Stabilization Project,

in accordance with Drawings and Specifications prepared by: Tony Gibson, AIA, 121 Cashua Drive, Florence, SC 29501.

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

IN WITNESS THEREOF, Surety and Contractor, intending to be legally bound hereby, subject to the conditions 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 _____, **BOND NUMBER** _____

CONTRACTOR

SURETY

(Contractor's Name)

(Surety's Name)

BY: _____
(Signature and Title)

BY: _____
(Signature and Title)

ATTEST: _____
(Signature and Title)

ATTEST: _____
(Signature and Title)

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 §11-35-3020(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 forty-five (45) 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.

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.

INCOME TAX CREDIT!!

Reference: SC §12-6-3350 – Income Tax Credit for State Contractors Having Subcontracts with MINORITY Firms

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 \$50,000 annually. A taxpayer is eligible to claim the credit for 10 taxable years beginning with the taxable year in which the credit is first claimed. After the above 10 taxable years, the taxpayer is no longer eligible for the credit regardless of whether or not the taxpayer claimed the credit in a year subsequent to the year in which the credit was first claimed.

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

References: SC §11-35-5010 – Definition for Minority Subcontractor
SC §11-35-5230 (B) – Regulations for Negotiating with State Minority Firms

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

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(1) **STANDARDS AND REFERENCES:**

This project is to be constructed under the South Carolina Department of Transportation's Specifications For Highway Construction Edition of 2007, the South Carolina Department of Transportation's 2004 Construction Manual, the Supplemental Technical Specifications in effect at the time of the letting, and the following Special Provisions.

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

See attached Supplemental Specification dated **May 4, 2009** on page 7.

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

The Bidders are hereby advised that this project shall be constructed using the 2011 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. 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.

(4) **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.

(5) **SECTION 106: SOUTH CAROLINA MINING ACT:**

See Attached Supplemental Specification Dated **March 20, 2003** on page 11.

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 plt 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

SPECIAL PROVISIONS

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/doina/sup_tech_specs.shtml.

(6) **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.

(7) **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 on page 11.

(8) **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

SPECIAL PROVISIONS

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.

- (9) **SECTION 107: REQUIREMENTS FOR FEDERAL AID CONTRACTS WHICH AFFECT SUBCONTRACTORS, DBE HAULERS, MATERIAL SUPPLIERS AND VENDORS:**
See attached Supplemental Specification dated **March 15, 1997** on page 13.

- (10) **SECTION 107: DISADVANTAGED BUSINESS ENTERPRISES (DBE) GOALS AND REQUIREMENTS:**
See attached Supplemental Specification entitled special provision "Disadvantaged Business Enterprises (DBE) Federal Projects" dated **February 4, 2004** on page 14 for specific requirements that must be met. Also see attached "Instructions To Bidders Federal Projects" dated **June 2, 2003** on page 30.

- (11) **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** on page 20.

- (12) ~~SECTION 107: SPECIAL PROVISIONS: EQUAL EMPLOYMENT OPPORTUNITY RESPONSIBILITY~~
~~See attached Supplemental Specification entitled "Special Equal Employment Opportunity Responsibility Training Special Provision" dated August 26, 1978, on page 21.~~

~~The Supplemental Specification states "The contractor will be reimbursed \$6 cents per hour of training given an employee on this contract in accordance with an approved training program." The Contractor is advised that the Department will not accept bids with any unit price other than \$0.06/h for the item ON THE JOB TRAINEE. Bids that are submitted with any other unit price will be rejected by the Department to \$0.06/h, and the Grand Total Bid amount adjusted accordingly.~~

- (13) **SECTION 107: DBE PARTICIPATION:**
The Bidder is encouraged to use DBE subcontractors on this project. All DBE participation shall be reported to the RCE on the DBE Quarterly Report.

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(14) 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).

(15) DIVISION 600: MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES:

"The Contractor is hereby advised that the Department has adopted the MUTCD 2003 - Manual on Uniform Traffic Control Devices for use on all projects. All references to the South Carolina Manual on Uniform Traffic Control Devices (SCMUTCD) are hereby revised to read "MUTCD - 2003 Edition".

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

See attached Supplemental Specification dated **September 1, 2008** on page 24.

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.

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

See attached Co-Permittee Agreement & Contractor Certification Form on page 30. 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.

SPECIAL PROVISIONS

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.

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

See attached Supplemental Specification dated **January 1, 2009**, on page 28.

May 4, 2009

ERRATA TO 2007 STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION

Make the changes listed below to correct errata in the SCDOT 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	
~~BDE*~~	~~Bridge Design Engineer~~	PSE*	Preconstruction Support Engineer
~~BDGE*~~	~~Bridge Design Geotechnical Engineer~~	GDSE*	Geotechnical Design Support Engineer
~~SHE*~~	~~State Highway Engineer~~	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."

SUPPLEMENTAL SPECIFICATIONS

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

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.

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 15, 1997

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

- A. The contractor's attention is directed to the requirement that prior to the issuance (by the Department) of formal approval of subcontractors, the contractor must certify that a copy of the documents listed below have been physically included in each subcontract. This certification should accompany all requests for subcontracting authorization.
 - 1. Form FHWA 1273, "Required Contract Provisions, Federal Aid Construction Contracts" or PR Form 1316 for Appalachian contracts only.
 - 2. Supplemental Specification entitled "Standard Federal Equal Employment Opportunity Construction Contract Specifications."
 - 3. The statements from section I of the Proposal Form Certifications and Signatures (Previous Equal Employment Opportunity Certifications).
- B. In addition to the requirements of paragraph (A) above prior to the issuance (by the Department) of formal approval of any DBE subcontractors, the contractor must submit to the Department a signed copy of the subcontract agreement.
- C. Prior to the issuance (by the Department) of formal approval of any DBE Haulers, the contractor must submit to the Department a signed copy of the hauling agreement.
- D. The contractor's attention is further directed that sections 1, 2, 3, 8, 9 and 11 of Form FHWA 1273, or Sections 1, 3, 9 and 10 of Form PR 1316 (for Appalachian contracts only) must be physically included in each purchase agreement equal to or more than \$10,000.00 with a vender or material supplier, and in open-end contracts where individual purchases are less than \$10,000.00 but where the total purchases accumulate to \$100,000.00 or more per year.

NOTE: Reproducible copies of this form are contained in the contract.

February 2, 2004

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 the Goal or Making Good Faith Efforts to Meet the Goal. It is the Contractor's responsibility to meet the DBE contract goal 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. The Instructions to Bidders is incorporated herein by reference and made a part of this contract. Failure to meet the goal or demonstrate good faith efforts to meet the goal 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 goal and the actual payments made to 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 DBE's listed on the "DBE Committal Sheet" to perform the work and supply the materials for which they are 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).

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 agreements 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 listed 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 listed DBE is decertified or removed from the 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 listed DBE is removed from the 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 listed DBE is decertified or removed from the 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 listed 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 listed 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.

SUPPLEMENTAL SPECIFICATIONS

- (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 listed 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 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.

SUPPLEMENTAL SPECIFICATIONS

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 DBE Program and Development Office 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.

SUPPLEMENTAL SPECIFICATIONS

- (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.

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 **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 **Quarterly Reports.** The Contractor shall provide to the SCDOT 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.

SUPPLEMENTAL SPECIFICATIONS

B. 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.

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

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

b. Notification of Failure to Meet Goal. If the documentation indicates that the Contractor has not met the DBE 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 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 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.

August 20, 1975

SPECIFIC EQUAL EMPLOYMENT OPPORTUNITY RESPONSIBILITIES
TRAINING SPECIAL PROVISIONS

This Training Special Provision supersedes Subparagraph 7b of the Special Provision entitled "Specific Equal Employment Opportunity Responsibilities", (Attachment 1), and is in implementation of 23 U.S.C. 140(a).

As part of the contractor's equal employment opportunity affirmative action program, training shall be provided as follows:

The contractor shall provide on-the-job training aimed at developing full journeymen in the type of trade or job classification involved.

THE NUMBER OF TRAINEES TO BE TRAINED UNDER THE SPECIAL PROVISION WILL BE.

Road _____	@	hrs
Bridge _____	@	hrs

In the event that a Contractor subcontracts a portion of the contract work, he shall determine how many, if any, of the trainees are to be trained by the subcontractor, provided however, that the Contractor shall retain the primary responsibility for meeting the training requirements imposed by this Special Provision. The Contractor shall also insure that this training Special Provision is made applicable to such subcontract. Where feasible, 25 percent of apprentices or trainees in each occupation shall be in their first year of apprenticeship or training.

The number of trainees shall be distributed among the work classifications on the basis of the Contractor's needs and the availability of journeymen in the various classifications within a reasonable area of recruitment. Prior to commencing construction, the Contractor shall submit to the State Highway Agency for approval the number of trainees to be trained in each selected classification and training program to be used. Furthermore, the Contractor shall specify the starting time for training in each of the classifications. The Contractor will be credited for each trainee employed by him on the contract work who is currently enrolled or becomes enrolled in an approved program.

Training and upgrading of minorities and women toward journeyman status is a primary objective of this Training Special Provision. Accordingly, the Contractor shall make every effort to enroll minority trainees and women (e.g., by conducting systematic and direct recruitment through public and private sources likely to yield minority and women (trainees)) to the extent that such persons are available within a reasonable area of recruitment. The contractor will be responsible for demonstrating the steps that he has taken in pursuance thereof, prior to a determination as to whether the Contractor is in compliance with this Training Special Provision. This training commitment is not intended, and shall not be used, to discriminate against any applicant for training, whether a member of a minority group or not.

No employee shall be employed as a trainee in any classification in which he has successfully completed a training course leading to journeyman status or in which he has been employed as a journeyman. The Contractor should satisfy this requirement by including appropriate questions in the employee application or by other suitable means. Regardless of the method used the Contractor's records should document the findings in each case.

SUPPLEMENTAL SPECIFICATIONS

The minimum length and type of training for each classification will be as established in the training program selected by the Contractor and approved by the State Highway Agency and the Federal Highway Administration. The State Highway Agency and the Federal Highway Administration shall approve a program if it is reasonably calculated to meet the equal employment opportunity obligations of the Contractor and to qualify the average trainee for journeyman status in the classification concerned by the end of the training period. Furthermore, apprenticeship programs registered with the U.S. Department of Labor, Bureau of Apprenticeship and Training, or with a State apprenticeship agency recognized by the Bureau and training programs approved but not necessarily sponsored by the U.S. Department of Labor, Manpower Administration, Bureau of Apprenticeship and Training shall also be considered acceptable provided it is being administered in a manner consistent with the equal employment obligations of Federal Aid highway construction contracts. Approval or acceptance of a training program shall be obtained from the State prior to commencing work on the classification covered by the program. It is the intention of these provisions that training is to be provided in the construction crafts rather than clerk-typists or secretarial-type positions. Training is permissible in lower level management positions such as office engineers, estimators, timekeepers, etc., where the training is oriented toward construction applications. Training in the laborer classification may be permitted provided that significant and meaningful training is provided and approved by the division office. Some off-site training is permissible as long as the training is an integral part of an approved training program and does not comprise a significant part of the overall training.

Except as otherwise noted below, the cost for the training will be included in the contract price. There will be no reimbursement given by SCDOT for the hours of training that are provided on this project. However, a "Statement of Completed Training" will be required at the end of the project. The fact that the cost of the training must be included in the contract does not prohibit the contractor from receiving training program funds from other sources, if he so desires. Training hours may be counted if training is done off-site where the contractor does one or more of the following and the trainees are concurrently employed on a Federal Aid project: contributes to the cost of the training, provides the instruction to the trainee, or pays the trainee's wages during the off-site training period.

The training requirement will not be considered completed by the Contractor if either the failure to provide the required training, or the failure to hire the trainee as a journeyman, is caused by the Contractor and evidences a lack of good faith on the part of the Contractor in meeting the requirements of this Training Special Provision. It is normally expected that a trainee will begin his training on the project as soon as feasible after start of work the skill involved and remain on the project as long as training opportunities exist in his work classification or until he has completed his training program. It is not required that all trainees be on board for the entire length of the contract. A Contractor will have fulfilled his responsibilities under this Training Special Provision if he has provided acceptable training to the number of trainees specified. The number trained shall be determined on the basis of the total number enrolled on the contract for a significant period.

Trainees will be paid at least 60 percent of the appropriate minimum journeyman's rate specified in the contract for the first half of the training period, 75 percent for the third quarter of the training period, and 90 percent for the last quarter of the training period, unless apprentices or trainees in an approved existing program are enrolled as trainees on this project. In that case, the appropriate rates approved by the Departments of Labor or Transportation in connection with the existing program shall apply to all trainees being trained for the same classification who are covered by this Training Special Provision.

The Contractor shall furnish the trainee a copy of the program he will follow in providing the training. The Contractor shall provide each trainee with a certification showing the type and length of training satisfactorily completed.

The Contractor will provide for the maintenance of records and furnish periodic reports documenting his performance under this Training Special Provision, as required under the SCDOT approved training program.

Meeting the On-the-job Training Requirements or Making Good Faith Efforts to Meet the On-the-job Training Requirements. It is the Contractor's responsibility to meet the On-the-job Training Requirements stated in this section. Failure to meet the requirement or demonstrate good faith efforts, as determined by SCDOT, to meet the requirement may result in any one or more of the following sanctions:

SUPPLEMENTAL SPECIFICATIONS

- (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) Disqualifying the Contractor from bidding pursuant to Regulation 63-306, Volume 25A, of the S. C. Code of Laws; and/or
- (4) Requiring the Contractor to obtain On-the-job Training participation on future contracts to the extent the Contractor failed to meet or use good faith efforts to meet the On-the-job training contract requirement.

September 1, 2008

ADHESIVELY BONDED ANCHORS AND DOWELS

1.0 Adhesively Bonded Anchors and Dowels

1.1 Scope

Furnish all required labor, equipment, and materials and perform all operations necessary for installing anchors and dowels in concrete using an adhesive bonding system in accordance with the details shown on the Plans and with the requirements of this Specification. Provide a material system specifically intended for use in structural applications for bonding anchors and dowels to hardened concrete. Limit applications to anchors and dowels installed in horizontal, vertical, and downwardly inclined positions. Do not use adhesive anchors in overhead or upwardly inclined installations. See Figure 1.1.

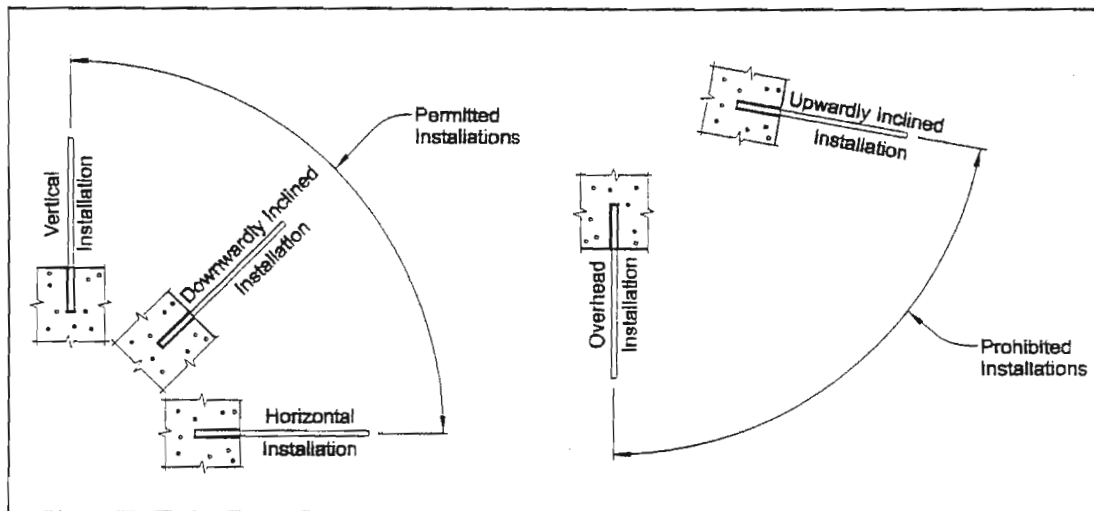


Figure 1.1

Submit a description of the proposed adhesive bonding system to the RCE for review, comments, and acceptance. Include in the description the anchor type, equipment, Manufacturer's recommended hole diameter, material specifications, and any other material, equipment or procedure not covered by the contract documents. List the properties of the adhesive, including density, minimum and maximum temperature application, setting time, shelf life, pot life, shear strength, bond strength, and compressive strength. If anchors or dowels containing a corrosion protective coating are required, provide an adhesive that does not contain any chemical elements that are detrimental to the coating and include a statement to this effect in the submittal concerning the contents as required by State or Federal Laws and Regulations.

Submit to the RCE Manufacturer's certification that the adhesive bonding system, when tested for tension pull-out according to ASTM E 488 utilizing identical anchorages, embedment depths, and concrete strengths as those specified on the Plans, does not fail by any mode listed in Section 12 of ASTM E 488 when loaded to the lesser of 85 percent of the specified bond strength (based on the nominal anchorage diameter and embedment depth) or 90 percent of the yield strength of the anchor. Also, submit to the RCE long term load (creep) test results performed in accordance with ASTM E 1512, ICC-ES AC 58, or ICC-ES AC 308. When specified on the Plans, field testing will also be required for adhesive anchorages.

1.2 Materials

Provide adhesive bonding material systems for structural applications that meet the requirements of ASTM C 881, Type IV, Grade 3, Class B or C (depending on site conditions). Do not use "Fast Set epoxy." Package components of the adhesive in containers of such size that one whole container of each component is used in mixing one batch of adhesive. Use containers of such design that all of the contents may be readily removed, and are well sealed to prevent leakage. Do not use material from containers which are damaged or have been previously opened. Use only full packages of components. Furnish adhesive material that requires hand mixing in two separate containers designated as Component A and Component B or in a self contained cartridge or capsule that consists of two components which will be automatically mixed as they are dispensed, as in the case of a cartridge, or drilled into, as in the case of a capsule.

Provide packages clearly marked by the Manufacturer with the following information:

- Manufacturer's name and address
- Product Name
- Date of Manufacture
- Expiration Date
- LOT Identification Number
- Storage and Handling Requirements

With each package include the Manufacturer's instructions for anchor and dowel installation. Include the following information with the instructions:

- Diameters of drilled holes for applicable anchor and dowel sizes.
- Cleaning procedure for drilled holes, including a description of permitted and prohibited equipment and techniques.
- Allowable temperature ranges for storage, installation and curing.
- Identification of acceptable mixing/dispensing nozzles.
- Fabrication requirements for anchors and dowels.
- Description of tools permitted or required for installation.
- Method of identifying properly proportioned and mixed adhesive materials.
- Time and temperature schedule for initial set ('gel time') and full-strength cure.
- Requirements for special installation conditions such as horizontal or near horizontal orientation of the anchor or dowel.

1.3 Construction Requirements

1.3.1 Storage

Deliver the adhesive bonding material system to the job-site in original unopened containers with the Manufacturer's label identifying the product. Store materials delivered to the job-site in the original unopened containers within an appropriate facility capable of maintaining storage conditions consistent with the Manufacturer's recommendations.

1.3.2 Installation

Install the adhesive anchors and dowels perpendicular to the plane surface of the structural member, in accordance with Manufacturer's recommendations, and when the concrete is above 40 degrees Fahrenheit and has reached its 28 day strength. Install the anchorages before the adhesive's initial set ('gel time').

1.3.2.1 Drilling of Holes into Concrete

Ensure that concrete members receiving adhesive-bonded anchors or dowels are structurally sound and free of cracks in the vicinity of the anchor or dowel to be installed. When directed by the RCE, use a jig or fixture to ensure the holes are positioned and aligned correctly during the drilling process.

SUPPLEMENTAL SPECIFICATIONS

Use a metal detector specifically designed for locating steel in concrete to avoid conflicts with existing steel reinforcement whenever placement tolerances and edge clearances permit. Unless other equipment is recommended by the Manufacturer, drill holes to the diameter required by the Manufacturer using a rotary hammer drill and bit. Perform core drilling to clear existing steel reinforcement only when approved by the RCE. Dry the drilled holes completely prior to cleaning and installing the anchors or dowels. Clean and prepare drilled holes in accordance with the Manufacturer's recommendations, but as a minimum, use oil-free compressed air to remove loose particles from drilling, brush inside surface to free loose particles trapped in pores, then use compressed air again to remove the remaining loose particles. Use a non-metallic bristle brush and avoid over-brushing to prevent polishing the inside surface of the drilled hole. Check each hole with a depth gauge to ensure proper embedment depth. Repair spalled or otherwise damaged concrete using methods approved by the RCE.

1.3.2.2 Inspection of Holes

Inspect each hole immediately prior to placing the adhesive and the anchors/dowels. Ensure all holes are dry and free of dust, dirt, oil, and grease.

1.3.2.3 Mixing of Adhesive

Mix the adhesive in strict conformance with the Manufacturer's instructions.

1.3.2.4 Embedment of Anchors and Dowels

Remove all debris, oils, and any other deleterious material from the anchors and dowels to avoid contamination of the adhesive bonding material. Insert the anchor or dowel the specified depth into the hole and slightly agitate it to ensure wetting and complete encapsulation. After insertion of the anchor or dowel, strike off any excessive adhesive flush with the concrete face. Should the adhesive fail to fill the hole, add additional adhesive to the hole to allow a flush strike-off. Do not disturb the anchors and dowels while adhesive is hardening. For horizontal and inclined installations, provide temporary supports to maintain the alignment of the anchors or dowels until the adhesive bonding material has cured.

1.3.3 Field Testing

When specified on the Plans, field test the installed anchors and dowels. Perform field testing of the installed anchors and dowels in accordance with the applicable sections of ASTM E 488. Inform the RCE and the Manufacturer when the tests will be performed at least 2 days prior to testing. For testing, use a calibrated hydraulic centerhole jack system that will not damage the anchor or dowel. Place the jack on a plate washer that has a hole at least 1/4" larger than the hole drilled into the concrete. Position the plate washer on center to allow an unobstructed pull. Position the anchors/dowels and the jack on the same axis. Have an approved testing agency calibrate the jack within 6 months prior to testing. Supply the RCE with a certificate of calibration.

Divide the anchors and dowels into LOTs for field testing and acceptance. A LOT consists of anchors or dowels of the same type, diameter, strength, embedment length, and adhesive bonding system. Prior to performing field tests, submit proposed testing locations to the RCE for review, comments, and acceptance. In the presence of the RCE, field test the anchors or dowels for each LOT in accordance with the following:

Test a minimum of 1 anchorage but not less than 10% of all anchors in the LOT to the test load shown on the Plans.

If less than 60 anchorages are to be installed: Install and test the minimum required number of anchorages prior to installing the remaining anchorages. After installing the remaining anchorages, test a minimum of 2 of these anchorages at random locations selected by the RCE.

SUPPLEMENTAL SPECIFICATIONS

If more than 60 anchorages are to be installed: Test the first 6 anchorages prior to installing the remaining anchorages. Then test, at random locations selected by the RCE, 10% of the number in excess of 60 anchorages.

For every failed field test, perform two additional field tests on adjacent untested anchors or dowels within the LOT. Continue additional field tests until no more test failures occur, or until all anchors and dowels within the LOT are tested.

Begin testing after the Manufacturer's recommended cure time has been reached. For testing, apply and hold the test load for three minutes. If the jack experiences any drop in gage reading, restart the test. For the anchorage to be deemed satisfactory, hold the test load for three minutes with no movement or drop in gage reading.

Remove all anchors and dowels that fail the field test, without damage to the surrounding concrete. Re-drill holes to remove adhesive bonding material residue and clean the hole in accordance with Subsection 1.3.2.1. For reinstalling replacement anchors or dowels, follow the same procedures as new installations. Do not reuse failed anchors or dowels unless approved by the RCE.

Determine failure of the field test in accordance with ASTM E 488. Submit certified test reports to the RCE. Final acceptance of the adhesively anchored system is based on the conformance of the pull test to the requirements of this Specification. Failure to meet the criteria of this Specification is grounds for rejection.

1.4 Measurement

No separate measurement for payment will be made for furnishing, installing, and testing of adhesively bonded anchors and dowels.

1.5 Payment

Include all costs of adhesively bonded anchors and dowels in the contract unit price bid for the items to be anchored.

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/finalicgp.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.

SUPPLEMENTAL SPECIFICATIONS

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, the fines incurred will be charged against the Contractor's Surety.

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 _____ %

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 commitments 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, advertising in newspapers owned by and targeted toward DBEs) at least 10 days prior to the letting; or did the bidder provide 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 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.

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.

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

1 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.

2 Percent - show percent of total contract amount committed to each DBE listed.

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

4 Unit Price - show unit price quoted by DBE.

5 Dollar Value - extended amount based on Quantity and Unit Price.

6 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)

By: _____

Notary Public for _____

My commission expires: _____

Title: _____

Co-Permittee Agreement & Contractor Certification

Unique ID: _____ Agreement Date: ____/____/____ Project No: _____
File No.: _____

Section 1: All contractors and subcontractors identified in the plan as co-permittees must sign a copy of the certification statement below:

"I certify by my signature below that I participated in a pre-construction conference onsite with the individual who is responsible for the operational control of the Storm Water Pollution Prevention Plan (SWPPP) and I accept the terms and conditions of the SWPPP as required by the general National Pollutant Discharge Elimination System permit (NPDES permit number SCR100000) issued to the owner/operator of the construction activity for which I have been contracted to perform construction related professional services. Further, by my signature below, I understand that I am becoming a co-permittee with the owner/operator and other contractors that have become co-permittees to the general NPDES permit issued to the owner/operator of the facility for which I have been contracted to perform professional construction services. As a co-permittee, I understand that I, and my company, as the case may be, am legally accountable to the SC Department of Health and Environmental Control (DHEC), under the authorities of the CWA and the SC Pollution Control Act, to ensure compliance with the terms and conditions of the SWPPP. I also understand that DHEC enforcement actions may be taken against any specific co-permittee or combination of co-permittees if the terms and conditions of the SWPPP are not met. Therefore, having understood the above information, I am signing this certification and am receiving co-permittee status to the aforementioned general NPDES permit."

Contractor Rep: _____

Signature: _____ Date: _____
Title: _____

Contractor: _____
Address: _____
City/State/Zip: _____
Phone: _____

Section 2: All contractors and subcontractors identified in the plan to perform construction related work that may affect the implementation of the SWPPP but who will not be co-permittees must sign the certification statement below:

"I certify by my signature below that I participated in a pre-construction conference onsite with the individual who is responsible for the operational control of the Storm Water Pollution Prevention Plan (SWPPP) and I accept the terms and conditions of the SWPPP as required by the general National Pollutant Discharge Elimination System permit (NPDES permit number SCR100000) issued to the owner/operator of the construction activity for which I have been contracted to perform construction related professional services. I understand that that I, and my company, as the case may be, may be legally accountable to the SC Department of Health and Environmental Control (DHEC), under the authorities of the CWA and the SC Pollution Control Act, to ensure compliance with the terms and conditions of the SWPPP."

Contractor Rep: _____

Signature: _____ Date: _____
Title: _____

Contractor: _____
Address: _____
City/State/Zip: _____
Phone: _____

REQUIRED CONTRACT PROVISIONS FEDERAL-AID CONSTRUCTION CONTRACTS

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ATTACHMENTS

A. Employment Preference for Appalachian Contracts (included in Appalachian contracts only)

I. GENERAL

- 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.
- Except as otherwise provided for in each section, the contractor shall insert in each subcontract all of the stipulations contained in these Required Contract Provisions, and further require their inclusion in any lower tier subcontract or purchase order that may in turn be made. The Required Contract Provisions shall not be incorporated by reference in any case. The prime contractor shall be responsible for compliance by any subcontractor or lower tier subcontractor with these Required Contract Provisions.
- A breach of any of the stipulations contained in these Required Contract Provisions shall be sufficient grounds for termination of the contract.
- A breach of the following clauses of the Required Contract Provisions may also be grounds for debarment as provided in 29 CFR 5.12:
Section I, paragraph 2;
Section IV, paragraphs 1, 2, 3, 4, and 7;
Section V, paragraphs 1 and 2a through 2g.
- Disputes arising out of the labor standards provisions of Section IV (except paragraph 5) and Section V of these Required Contract Provisions shall not be subject to the general disputes clause of this contract. Such disputes shall be resolved in accordance with the procedures of the U.S. Department of Labor (DOL) as set forth in 29 CFR 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 DOL, or the contractor's employees or their representatives.
- Selection of Labor:** During the performance of this contract, the contractor shall not:
 - discriminate against labor from any other State, possession, or territory of the United States (except for employment

preference for Appalachian contracts, when applicable, as specified in Attachment A), or

- employ convict labor for any purpose within the limits of the project unless it is labor performed by convicts who are on parole, supervised release, or probation.

II. NONDISCRIMINATION

(Applicable to all Federal-aid construction contracts and to all related subcontracts of \$10,000 or more.)

- 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 and 41 CFR 60) 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 Equal Opportunity Construction Contract Specifications set forth under 41 CFR 60-4.3 and the provisions of the American 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:

- The contractor will work with the State highway agency (SHA) and the Federal Government in carrying out EEO obligations and in their review of his/her activities under the contract.

- The contractor will accept as his 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, preapprenticeship, and/or on-the-job training."

- EEO Officer:** The contractor will designate and make known to the SHA contracting officers an EEO Officer who will have the responsibility for and must be capable of effectively administering and promoting an active contractor program of EEO and who must be assigned adequate authority and responsibility to do so.
- 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 minority group employees.
 - 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 minority groups 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 minority group applicants. To meet this requirement, the contractor will identify sources of potential minority group employees, and establish with such identified sources procedures whereby minority group 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, he is expected to observe the provisions of that agreement to the extent that the system permits the contractor's compliance with EEO contract provisions. (The DOL has held that where implementation of such agreements have the effect of discriminating against minorities or women, or obligates the contractor to do the same, such implementation violates Executive Order 11246, as amended.)
 - c. The contractor will encourage his present employees to refer minority group applicants for employment. Information and procedures with regard to referring minority group 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 his 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 his avenues of appeal.

6. **Training and Promotion:**

- a. The contractor will assist in locating, qualifying, and increasing the skills of minority group and women employees, and applicants for employment.
- 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. Where feasible, 25 percent of apprentices or trainees in each occupation shall be in their first year of apprenticeship or training. In the event a special provision for training is provided under this contract, this subparagraph will be

superseded as indicated in the special provision.

- 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 minority group and women employees 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 his/her best efforts to obtain the cooperation of such unions to increase opportunities for minority groups and women within the unions, and to effect referrals by such unions of minority and female employees. 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 best efforts to develop, in cooperation with the unions, joint training programs aimed toward qualifying more minority group members and women for membership in the unions and increasing the skills of minority group employees and women so that they may qualify for higher paying employment.
 - b. The contractor will use best 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 SHA 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 minority and women 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 minority group persons and women. (The DOL has held that it shall be no excuse that the union with which the contractor has a collective bargaining agreement providing for exclusive referral failed to refer minority employees.) 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 SHA.
8. **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.
- a. The contractor shall notify all potential subcontractors and suppliers of his/her EEO obligations under this contract.
 - b. Disadvantaged business enterprises (DBE), as defined in 49 CFR 23, shall have equal opportunity to compete for and perform subcontracts which the contractor enters into pursuant to this contract. The contractor will use his best efforts to solicit bids from and to utilize DBE subcontractors or subcontractors with meaningful minority group and female representation among their employees. Contractors shall obtain lists of DBE construction firms from SHA personnel.
 - c. The contractor will use his best efforts to ensure subcontractor compliance with their EEO obligations.
9. **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 completion of the contract work and shall be available at reasonable times and places for inspection by authorized representatives of the SHA and the FHWA.
- a. The records kept by the contractor shall document the following:
 - (1) The number 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;
 - (3) The progress and efforts being made in locating, hiring, training, qualifying, and upgrading minority and female employees; and
 - (4) The progress and efforts being made in securing the services of DBE subcontractors or subcontractors with meaningful minority and female representation among their employees.
 - b. The contractors will submit an annual report to the SHA 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. If on-the job training is being required by special provision, the contractor will be required to collect and report training data.

III. NONSEGREGATED FACILITIES

(Applicable to all Federal-aid construction contracts and to all related subcontracts of \$10,000 or more.)

- a. By submission of this bid, the execution of this contract or subcontract, or the consummation of this material supply agreement or purchase order, as appropriate, the bidder, Federal-aid construction contractor, subcontractor, material supplier, or vendor, as appropriate, certifies that the firm does not maintain or provide for its employees any segregated facilities at any of its establishments, and that the firm does not permit its employees to perform their services at any location, under its control, where segregated facilities are maintained. The firm agrees that a breach of this certification is a violation of the EEO provisions of this contract. The firm further certifies that no employee will be denied access to adequate facilities on the basis of sex or disability.
- b. As used in this certification, the term "segregated facilities" means any waiting rooms, work areas, restrooms and washrooms, restaurants and other eating areas, timeclocks, locker rooms, and other storage or dressing areas, parking lots, drinking fountains, recreation or entertainment areas, transportation, and housing facilities provided for employees which are segregated by explicit directive, or are, in fact, segregated on the basis of race, color, religion, national origin, age or disability, because of habit, local custom, or otherwise. The only exception will be for the disabled when the demands for accessibility override (e.g. disabled parking).
- c. The contractor agrees that it has obtained or will obtain identical certification from proposed subcontractors or material suppliers prior to award of subcontracts or consummation of material supply agreements of \$10,000 or more and that it will retain such certifications in its files.

IV. PAYMENT OF PREDETERMINED MINIMUM WAGE

(Applicable to all Federal-aid construction contracts exceeding \$2,000 and to all related subcontracts, except for projects located on roadways classified as local roads or rural minor collectors, which are exempt.)

1. General:

- a. All mechanics and laborers 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 (29 CFR 3) issued by the Secretary of Labor under the Copeland Act (40 U.S.C. 276c)] the full amounts of wages and bona fide fringe benefits (or cash equivalents thereof) due at time of payment. The payment shall be computed at wage rates not less than those contained in the wage determination of the Secretary of Labor (hereinafter "the wage determination") which is attached hereto and made a part hereof, regardless of any contractual relationship which may be alleged to exist between the contractor or its subcontractors and such laborers and mechanics. The wage determination (including any additional classifications and wage rates conformed under paragraph 2 of this Section IV and the DOL poster (WH-1321) or Form FHWA-1495) 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. For the purpose of this Section, contributions made or costs reasonably anticipated for bona fide fringe benefits

under Section 1(b)(2) of the Davis-Bacon Act (40 U.S.C. 276a) on behalf of laborers or mechanics are considered wages paid to such laborers or mechanics, subject to the provisions of Section IV, paragraph 3b, hereof. Also, for the purpose of this Section, 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 paragraphs 4 and 5 of this Section IV.

- b. 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.
- c. All rulings and interpretations of the Davis-Bacon Act and related acts contained in 29 CFR 1, 3, and 5 are herein incorporated by reference in this contract.

2. Classification:

- a. The SHA contracting officer shall require that any class of laborers or mechanics employed under the contract, which is not listed in the wage determination, shall be classified in conformance with the wage determination.
- b. The contracting officer shall approve an additional classification, wage rate and fringe benefits only when the following criteria have been met:
 - (1) the work to be performed by the additional classification requested is not performed by a classification in the wage determination;
 - (2) the additional classification is utilized in the area by the construction industry;
 - (3) the proposed wage rate, including any bona fide fringe benefits, bears a reasonable relationship to the wage rates contained in the wage determination; and

- (4) with respect to helpers, when such a classification prevails in the area in which the work is performed.

c. If the contractor or subcontractors, as appropriate, the laborers and mechanics (if known) to be employed in the additional classification 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 DOL, Administrator of the Wage and Hour Division, Employment Standards Administration, Washington, D. C. 20210. The Wage and Hour 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.

d. In the event the contractor or subcontractors, as appropriate, the laborers or mechanics to be employed in the additional 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. Said 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.

e. The wage rate (including fringe benefits where appropriate) determined pursuant to paragraph 2c or 2d of this Section IV shall be paid to all workers performing work in the additional classification from the first day on which work is performed in the classification.

3. **Payment of Fringe Benefits:**

a. 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 or subcontractors, as appropriate, shall either pay the benefit as stated in the wage determination or shall pay another bona fide fringe benefit or an hourly case equivalent thereof.

b. If the contractor or subcontractor, as appropriate, does not make payments to a trustee or other third person, he/she may consider as a 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.

4. **Apprentices and Trainees (Programs of the U.S. DOL) and Helpers:**

a. *Apprentices:*

(1) 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 DOL, Employment and Training Administration, Bureau of Apprenticeship and Training, or with a State apprenticeship agency recognized by the Bureau, or if a person is employed in his/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 Bureau of Apprenticeship and Training or a State apprenticeship agency (where appropriate) to be eligible for probationary employment as an apprentice.

(2) The allowable ratio of apprentices to journeyman-level employees 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 employee 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 listed in 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 or subcontractor 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-level hourly rate) specified in the contractor's or subcontractor's registered program shall be observed.

(3) 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

journeyman-level 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 for the Wage and Hour Division determines that a different practice prevails for the applicable apprentice classification, fringes shall be paid in accordance with that determination.

- (4) In the event the Bureau of Apprenticeship and Training, or a State apprenticeship agency recognized by the Bureau, withdraws approval of an apprenticeship program, the contractor or subcontractor will no longer be permitted to utilize apprentices at less than the applicable predetermined rate for the comparable work performed by regular employees until an acceptable program is approved.

b. *Trainees:*

- (1) 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 DOL, Employment and Training Administration.
- (2) The ratio of trainees to journeyman-level employees on the job site shall not be greater than permitted under the plan approved by the Employment and Training Administration. 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.
- (3) Every trainee must be paid at not less than the rate specified in the approved program for his/her level of progress, expressed as a percentage of the journeyman-level 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-level wage rate on the wage determination which provides for less than full fringe benefits for apprentices, in which case such trainees shall receive the same fringe benefits as apprentices.
- (4) In the event the Employment and Training Administration withdraws approval of a training program, the contractor or subcontractor 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. *Helpers:*

Helpers will be permitted to work on a project if the helper classification is specified and defined on the applicable wage determination or is approved pursuant to the conformance procedure set forth in Section IV.2. Any worker listed on a payroll at a helper wage rate, who is not a helper under a approved definition, shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed.

5. **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.

6. **Withholding:**

The SHA shall upon its own action or upon written request of an authorized representative of the DOL withhold, or cause to be withheld, from the contractor or subcontractor 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, as 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 SHA contracting officer 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.

7. **Overtime Requirements:**

No contractor or subcontractor contracting for any part of the contract work which may require or involve the employment of laborers, mechanics, watchmen, or guards (including apprentices, trainees, and helpers described in paragraphs 4 and 5 above) shall require or permit any laborer, mechanic, watchman, or guard in

any workweek in which he/she is employed on such work, to work in excess of 40 hours in such workweek unless such laborer, mechanic, watchman, or guard receives compensation at a rate not less than one-and-one-half times his/her basic rate of pay for all hours worked in excess of 40 hours in such workweek.

8. Violation:

Liability for Unpaid Wages; Liquidated Damages: In the event of any violation of the clause set forth in paragraph 7 above, the contractor and any subcontractor responsible thereof shall be liable to the affected employee for his/her 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, mechanic, watchman, or guard employed in violation of the clause set forth in paragraph 7, in the sum of \$10 for each calendar day on which such employee was required or permitted to work in excess of the standard work week of 40 hours without payment of the overtime wages required by the clause set forth in paragraph 7.

9. Withholding for Unpaid Wages and Liquidated Damages:

The SHA shall upon its own action or upon written request of any authorized representative of the DOL withhold, or cause to be withheld, from any monies 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 8 above.

V. STATEMENTS AND PAYROLLS

(Applicable to all Federal-aid construction contracts exceeding \$2,000 and to all related subcontracts, except for projects located on roadways classified as local roads or rural collectors, which are exempt.)

1. Compliance with Copeland Regulations (29 CFR 3):

The contractor shall comply with the Copeland Regulations of the Secretary of Labor which are herein incorporated by reference.

2. Payrolls and Payroll Records:

- a. Payrolls and basic records relating thereto shall be maintained by the contractor and each subcontractor during the course of the work and preserved for a period of 3 years from the date of completion of the contract for all laborers, mechanics, apprentices, trainees, watchmen, helpers, and guards working at the site of the work.
- b. The payroll records shall contain the name, social security number, and address of each such employee; his or her correct classification; hourly rates of wages paid (including rates of contributions or costs anticipated for bona fide fringe benefits or cash equivalent thereof 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. In addition, for Appalachian contracts, the payroll records shall contain a notation indicating whether the employee does, or does not, normally reside in the labor area as defined in Attachment A, paragraph 1. Whenever the Secretary of Labor, pursuant to Section IV, paragraph 3b, has found 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 and each subcontractor shall maintain records which show that the commitment to provide

such benefits is enforceable, that the plan or program is financially responsible, that the plan or program has been communicated in writing to the laborers or mechanics affected, and show the cost anticipated or the actual cost incurred in providing benefits. Contractors or subcontractors employing apprentices or trainees under approved programs shall maintain written evidence of the registration of apprentices and trainees, and ratios and wage rates prescribed in the applicable programs.

- c. Each contractor and subcontractor shall furnish, each week in which any contract work is performed, to the SHA resident engineer a payroll of wages paid each of its employees (including apprentices, trainees, and helpers, described in Section IV, paragraphs 4 and 5, and watchmen and guards engaged on work during the preceding weekly payroll period). The payroll submitted shall set out accurately and completely all of the information required to be maintained under paragraph 2b of this Section V. This information may be submitted in any form desired. Optional Form WH-347 is available for this purpose and may be purchased from the Superintendent of Documents (Federal stock number 029-005-0014-1), U.S. Government Printing Office, Washington, D.C. 20402. The prime contractor is responsible for the submission of copies of payrolls by all subcontractors.
- d. Each payroll submitted shall be accompanied by a "Statement of Compliance," signed by the contractor or subcontractor or his/her agent who pays or supervises the payment of the persons employed under the contract and shall certify the following:
 - (1) that the payroll for the payroll period contains the information required to be maintained under paragraph 2b of this Section V and that such information is correct and complete;
 - (2) that such 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 the Regulations, 29 CFR 3;
 - (3) that each laborer or mechanic has been paid not less than the applicable wage rate and fringe benefits or cash equivalent for the classification of work performed, as specified in the applicable wage determination incorporated into the contract.
- e. 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 2d of this Section V.

- f. The falsification of any of the above certifications may subject the contractor to civil or criminal prosecution under 18 U.S.C. 1001 and 31 U.S.C. 231.
- g. The contractor or subcontractor shall make the records required under paragraph 2b of this Section V available for inspection, copying, or transcription by authorized representatives of the SHA, the FHWA, or the DOL, 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 SHA, the FHWA, the DOL, or all may, after written notice to the contractor, sponsor, applicant, or owner, take such actions 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.

VI. RECORD OF MATERIALS, SUPPLIES, AND LABOR

- 1. On all Federal-aid contracts on the National Highway System, except those which provide solely for the installation of protective devices at railroad grade crossings, those which are constructed on a force account or direct labor basis, highway beautification contracts, and contracts for which the total final construction cost for roadway and bridge is less than \$1,000,000 (23 CFR 635) the contractor shall:
 - a. Become familiar with the list of specific materials and supplies contained in Form FHWA-47, "Statement of Materials and Labor Used by Contractor of Highway Construction Involving Federal Funds," prior to the commencement of work under this contract.
 - b. Maintain a record of the total cost of all materials and supplies purchased for and incorporated in the work, and also of the quantities of those specific materials and supplies listed on Form FHWA-47, and in the units shown on Form FHWA-47.
 - c. Furnish, upon the completion of the contract, to the SHA resident engineer on Form FHWA-47 together with the data required in paragraph 1b relative to materials and supplies, a final labor summary of all contract work indicating the total hours worked and the total amount earned.
- 2. At the prime contractor's option, either a single report covering all contract work or separate reports for the contractor and for each subcontract shall be submitted.

VII. SUBLETTING OR ASSIGNING THE CONTRACT

- 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 State. 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).
 - a. "Its own organization" shall be construed to include only workers employed and paid directly 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, assignee, or agent of the prime contractor.

- 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 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 VII 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 SHA 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 SHA 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 SHA has assured that each subcontract is evidenced in writing and that it contains all pertinent provisions and requirements of the prime contract.

VIII. SAFETY; ACCIDENT PREVENTION

- 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 SHA 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. 333).
- 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. 333).

IX. FALSE STATEMENTS CONCERNING HIGHWAY PROJECTS

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, the following notice 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:

NOTICE TO ALL PERSONNEL ENGAGED ON FEDERAL-AID HIGHWAY PROJECTS

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 not more than \$10,000 or imprisoned not more than 5 years or both."

X. IMPLEMENTATION OF CLEAN AIR ACT AND FEDERAL WATER POLLUTION CONTROL ACT

(Applicable to all Federal-aid construction contracts and to all related subcontracts of \$100,000 or more.)

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

1. That any facility that is or will be utilized in the performance of this contract, unless such contract is exempt under the Clean Air Act, as amended (42 U.S.C. 1857 et seq., as amended by Pub.L. 91-604), and under the Federal Water Pollution Control Act, as amended (33 U.S.C. 1251 et seq., as amended by Pub.L. 92-500), Executive Order 11738, and regulations in implementation thereof (40 CFR 15) is not listed, on the date of contract award, on the U.S. Environmental Protection Agency (EPA) List of Violating Facilities pursuant to 40 CFR 15.20.
2. That the firm agrees to comply and remain in compliance with all the requirements of Section 114 of the Clean Air Act and Section

308 of the Federal Water Pollution Control Act and all regulations and guidelines listed thereunder.

3. That the firm shall promptly notify the SHA of the receipt of any communication from the Director, Office of Federal Activities, EPA, indicating that a facility that is or will be utilized for the contract is under consideration to be listed on the EPA List of Violating Facilities.
4. That the firm agrees to include or cause to be included the requirements of paragraph 1 through 4 of this Section X in every nonexempt subcontract, and further agrees to take such action as the government may direct as a means of enforcing such requirements.

XI. CERTIFICATION REGARDING DEBARMENT, SUSPENSION, INELIGIBILITY AND VOLUNTARY EXCLUSION

1. Instructions for Certification - Primary Covered Transactions: (Applicable to all Federal-aid contracts - 49 CFR 29)

- a. By signing and submitting this proposal, the prospective primary 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 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 primary 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 department or agency determined to enter into this transaction. If it is later determined that the prospective primary participant knowingly rendered an erroneous certification, in addition to other remedies available to the Federal Government, the department or agency may terminate this transaction for cause of default.
- d. The prospective primary participant shall provide immediate written notice to the department or agency to whom this proposal is submitted if any time the prospective primary 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," "lower tier covered transaction," "participant," "person," "primary covered transaction," "principal," "proposal," and "voluntarily excluded," as used in this clause, have the meanings set out

in the Definitions and Coverage sections of rules implementing Executive Order 12549. You may contact the department or agency to which this proposal is submitted for assistance in obtaining a copy of those regulations.

- f. The prospective primary 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 primary 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 Transaction," provided by the department or agency entering into this covered transaction, without modification, in all lower tier covered transactions and in all solicitations for lower tier covered transactions.
- 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 may decide the method and frequency by which it determines the eligibility of its principals. Each participant may, but is not required to, check the nonprocurement portion of the "Lists of Parties Excluded From Federal Procurement or Nonprocurement Programs" (Nonprocurement List) which is compiled by the General Services Administration.
- i. 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.
- 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.

Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion-Primary Covered Transactions

- 1. The prospective primary participant certifies to the best of its knowledge and belief, that it and its principals:
 - a. Are not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from covered transactions by any Federal department or agency;
 - b. Have not within a 3-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;
 - c. 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 1b of this certification; and

- d. Have not within a 3-year period preceding this application/proposal had one or more public transactions (Federal, State or local) terminated for cause or default.
- 2. Where the prospective primary 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 Covered Transactions:(Applicable to all subcontracts, purchase orders and other lower tier transactions of \$25,000 or more - 49 CFR 29)

- 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," "primary covered transaction," "participant," "person," "principal," "proposal," and "voluntarily excluded," as used in this clause, have the meanings set out in the Definitions and Coverage sections of rules implementing Executive Order 12549. You may contact the person to which this proposal is submitted for assistance in obtaining a copy of those regulations.
- 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.
- 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 may decide the method and frequency by which it determines the eligibility of its principals. Each participant may, but is not required to, check the Nonprocurement List.

- 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 Covered Transactions:

- 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 participation in this transaction 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.

XII. CERTIFICATION REGARDING USE OF CONTRACT FUNDS FOR LOBBYING

(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 his or her bid or proposal that he or she 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 PREFERENCE FOR APPALACHIAN CONTRACTS (Applicable to Appalachian contracts only.)

- 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 he 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, he 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 1 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 contractor shall include the provisions of Sections 1 through of this Attachment A in every subcontract for work which is, or reasonably may be, done as on-site work.

STANDARD FEDERAL EQUAL EMPLOYMENT OPPORTUNITY CONSTRUCTION CONTRACT SPECIFICATIONS

NOTICE OF REQUIREMENT FOR AFFIRMATIVE ACTION TO ENSURE EQUAL EMPLOYMENT OPPORTUNITY (EXECUTIVE ORDER 11246)

1. The Offeror's or Bidders attention is called to the "Equal Opportunity Clause" and the "Standard Federal Equal Employment Opportunity Construction Contract Specifications" set forth herein.
2. The goals and timetables for minority and female participation expressed in percentage terms for the Contractor's aggregate work force in each trade on all construction work in the covered area are as follows:

Goals for Women Apply Nationwide

GOALS AND TIMETABLES Timeable	Goals (percent)
From Apr. 1, 1976 until March 31, 1979-----	3.1
From Apr. 1, 1979 until March 31, 1980-----	5.1
From Apr. 1, 1980 until March 31, 1981-----	6.9

Goals for Minority Participation

South Carolina	
SMSA Counties:.....	16.0
Greenville, Pickens, Spartanburg	
Non-SMSA Counties:.....	17.8
Abbeville, Anderson, Cherokee, Greenwood, Laurens, Oconee, Union	
SMSA Counties:.....	23.4
Lexington, Richland	
Non-SMSA Counties:.....	32.0
Calhoun, Clarendon, Fairfield, Kershaw, Lee, Newberry, Orangeburg, Saluda, Sumter	
Non-SMSA Counties:.....	33.0
Chesterfield, Darlington, Dillon, Florence, Georgetown, Horry, Marion, Marlboro, Williamsburg	
SMSA Counties:.....	30.0
Berkeley, Charleston, Dorchester	
Non-SMSA Counties:.....	30.7
Colleton	
Non-SMSA Counties:.....	29.8
Beaufort, Hampton, Jasper	
Non-SMSA Counties:.....	15.7
Chester Lancaster York	
Non-SMSA Counties:.....	32.8
Barnwell, Edgefield, McCormick, Allendale, Bamberg	
SMSA Counties:.....	27.2
Aiken	

These goals are applicable to all the Contractor's construction work (whether or not it is Federal or federally assisted) performed in the covered area. If the Contractor performs construction work in a geographical area located outside of the covered area, it shall apply the goals established for such geographical areas where the work is actually performed. With regard to this second area, the Contractor is also subject to the goals for both its federally involved and nonfederally involved construction.

The Contractor's compliance with the Executive Order and the regulations in 41 CFR Part 60-4 Shall be based on its implementation of the Equal Opportunity Clause, specific affirmative action obligations required by the specifications

set forth in 41 CFR 60-4.3(a) and its efforts to meet the goals established for the geographical area where the contract resulting from this solicitation is to be performed. The hours of minority and female employment and training must be substantially uniform throughout the length of the contract, and in each trade, and the Contractor shall make a good faith effort to employ minorities and women evenly on each of its projects. The transfer of minority or female employees of trainees from Contractor to Contractor or from project to project for the sole purpose of meeting the Contractor's goals shall be a violation of the contract, the Executive Order and the regulations in 41 CFR Part 60-4. Compliance with the goals will be measured against the total work hours performed.

3. The Contractor shall provide written notification to the Director of the Office of Federal Contract Compliance Programs within 10 working days of award of any construction subcontract in excess of \$10,000 at any tier for construction work under the contract resulting from this solicitation. The notification shall list the name, address and telephone number of the subcontractor, employer identification number, estimated dollar amount of the subcontract; estimated starting and completion dates of the subcontract; and the geographical area in which the contract is to be performed.
4. As used in this Notice and in the contract resulting from this solicitation, the "covered area" is (insert description of the geographical areas where the contract is to be performed giving the state, county, and city, if any). The "covered area is the SMSA County or Counties or Non-SMSA County or Counties in which the contract work is performed.

STANDARD FEDERAL EQUAL EMPLOYMENT OPPORTUNITY CONSTRUCTION CONTRACT SPECIFICATIONS (EXECUTIVE ORDER 11246)

1. As used in these specifications:
 - a. "Covered area" means the geographical area described in the solicitation from which this contract resulted;
 - b. "Director" means Director, Office of Federal Contract Compliance Programs, United States Department of Labor, or any person to whom the Director delegates authority;
 - c. "Employer identification number" means the Federal Social Security number used on the Employers Quarterly Federal Tax Return, U. S. Treasury Department Form 941.
 - d. "Minority" includes:
 - (i) Black (all persons having origins in any of the Black African racial groups not of Hispanic origin);
 - (ii) Hispanic (all persons of Mexican, Puerto Rican, Cuban, Central or South American or other Spanish Culture or origin regardless of race);
 - (iii) Asian or Pacific Islander (all persons having origins in any of the original peoples of the Far East, Southeast Asia, the Indian Subcontinent, or the Pacific Islands); and
 - (iv) American Indian or Alaskan Native (all persons having origins in any of the original peoples of North America and maintaining identifiable tribal affiliations through membership and participation or community identification).
2. Whenever the Contractor, or any Subcontractor at any tier, subcontracts a portion of the work involving any construction trade, it shall physically include in each subcontract in excess of \$10,000 the provisions of these specifications and the Notice which contains the applicable goals for minority and female participation and which is set forth in the solicitations from which this contract resulted.

3. If the Contractor is participating (pursuant to 41 CFR 60-4.5) in a Hometown Plan approved by the U. S. Department of Labor in the covered area either individually or through an association, its affirmative action obligations on all work in the Plan area (including goals and timetables) shall be in accordance with that Plan for those trades which have unions participating in the Plan. Contractors must be able to demonstrate their participation in and compliance with the provisions of any such Hometown Plan. Each Contractor or Subcontractor participating in an approved Plan is individually required to comply with its obligations under the EEO clause, and to make a good faith effort to achieve each goal under the Plan in each trade in which it has employees. The overall good faith performance by other Contractors or Subcontractors toward a goal in an approved Plan does not excuse any covered Contractor's or Subcontractor's failure to take good faith efforts to achieve the Plan goals and timetables.
4. The Contractor shall implement the specific affirmative action standards provided in paragraphs 7a through p of these specifications. The goals set forth in the solicitation from which this contract resulted are expressed as percentages of the total hours of employment and training of minority and female utilization the Contractor should reasonably be able to achieve in which it has employees in each construction trade in which it has employees in the covered area. Covered construction contractors performing construction work in geographical areas where they do not have a Federal or federally assisted construction contract shall apply the minority and female goals established for the geographical area where the work is being performed. Goals are published periodically in the Federal Register in notices form and such notices may be obtained from any Office of Federal Contract Compliance Programs office or from Federal procurement contracting officers. The Contractor is expected to make substantially uniform progress toward its goals in each craft during the period specified.
5. Neither the provisions of any collective bargaining agreement, nor the failure by a union with whom the Contractor has a collective bargaining agreement to refer either minorities or women shall excuse the Contractor's obligations under these specifications, Executive Order 11246, or the regulations promulgated pursuant thereto.
6. In order for the non-working training hours of apprentices and trainees to be counted in meeting the goals, such apprentices and trainees must be employed by the Contractor during the training period, and the Contractor must have made a commitment to employ the apprentices and trainees at the completion of their training, subject to the availability of employment opportunities. Trainees must be trained pursuant to training programs approved by the U. S. Department of Labor.
7. The Contractor shall take specific affirmative actions to ensure equal employment opportunity. The evaluation of the Contractor's compliance with these specifications shall be based upon its effort to achieve maximum results from its actions. The Contractor shall document these efforts fully, and shall implement affirmative action steps at least as extensive as the following:
 - a. Ensure and maintain a working environment free of harassment, intimidation, and coercion at all sites, and in all facilities at which the Contractor's employees are assigned to work. The Contractor where possible, will assign two or more women to each construction project. The Contractor shall specifically ensure that all foremen, superintendents and other on-site supervisory personnel are aware of and carry out the Contractor's obligation to maintain such a working environment, with specific attention to minority of female individuals working at such sites or in such facilities.
 - b. Establish and maintain a current list of minority and female recruitment sources, provide written notification to minority recruitment sources and to community organizations when the Contractor or its unions have employment opportunities available and maintain a record of the organization's responses.
 - c. Maintain a current file of the names, addresses and telephone numbers of each minority and female off-the-street applicant and minority or female referral from a union, a recruitment source or community organization and of what action was taken with respect to each individual. If such individual was sent to the union hiring hall for referral and was not referred back to the Contractor by the union or, if referred, not employed by the Contractor, this shall be documented in the file with the reason therefor, along with whatever additional actions the Contractor may take.
 - d. Provide immediate written notification to the Director when union or unions with which the Contractor has a collective bargaining agreement has not referred to the Contractor a minority person or woman sent by the Contractor, or when the Contractor has other information that the union referral process has impeded the Contractor's efforts to meet his obligations.
 - e. Develop on-the-job training opportunities and/or participate in training programs for the area which expressly include minorities and women, including upgrading programs and apprenticeship and trainee programs relevant to the Contractor's employment needs, especially those programs funded by the Department of Labor. The Contractor shall provide notice of these programs to the sources compiled under 7b above.
 - f. Disseminate the Contractor's EEO policy to unions and training programs and requesting their cooperation in assisting the Contractor in meeting its EEO obligations; by including it in any policy manual and collective bargaining agreement; by publicizing it in the company newspaper, annual report, etc.; by specific review of the policy with all management personnel and with all minority and female employees at least once a year; and by posting the company EEO policy on bulletin boards accessible to all employees at each location where construction work is performed.
 - g. Review at least annually, the company's EEO policy and affirmative action obligations under these specifications with all employees having any responsibility for hiring, assignment, layoff, termination or other employment decisions including specific review of these items with on-site supervisory personnel such as Superintendents, General Foremen, etc., prior to the initialization of construction work at any job site. A written record shall be made and maintained identifying the time and place of these meetings, persons attending, subject matter discussed, and disposition of the subject matter.
 - h. Disseminate the Contractor's EEO policy externally by including it in any advertising in the news media, specifically including minority and female news media, and providing written notification to and discussing the Contractor's EEO policy with other Contractors and Subcontractors with whom the Contractor does or anticipates doing business.
 - i. Direct its recruitment efforts, both oral and written, to minority, female and community organizations, to schools with minority and female students and to minority and female recruitment and training organizations serving the Contractor's recruitment area and employment needs. Not later than one month prior to the date for the acceptance of applications for apprenticeship or other training by any recruitment source, the Contractor shall send written notification to organizations such as the above, describing the openings, screening procedures and tests to be used in the selection process.
 - j. Encourage present minority and female employees to recruit other minority persons and women and where reasonable, provide after school, summer, and vacation employment to minority and female youth both on the site and in other areas of a Contractor's work force.

- k. Validate all tests and other selection requirements where there is an obligation to do so under 41 CFR Part 60-3.
 - l. Conduct, at least annually, an inventory and evaluation at least of all minority and female personnel for promotional opportunities and encourage these employees to seek or to prepare for, through appropriate training, etc., such opportunities.
 - m. Ensure that all seniority practices, job classifications, work assignments and other personnel practices, do not have a discriminatory effect by continually monitoring all personnel and employment related activities to ensure that the EEO policy and the Contractor's obligations under these specifications are being carried out.
 - n. Ensure that all facilities and company activities are non-segregated except that separate or single-user toilet and necessary changing facilities shall be provided to assure privacy between the sexes.
 - o. Document and maintain a record of all solicitations of offers for subcontracts from minority and female construction contractors and suppliers, including circulation of solicitations to minority and female contractor associations and other business associations.
 - p. Conduct a review, at least annually of all supervisors' adherence to and performance under the Contractor's EEO policies and affirmative action obligations.
8. Contractors are encouraged to participate in voluntary associations which assist in fulfilling one or more of their affirmative action obligations (7a through p). The efforts of a contractor association joint contractor-union, contractor-community, or other similar group of which the Contractor is a member and participant, may be asserted as fulfilling any one or more of its obligations under 7a through p of these specifications provided that the contractor actively participates in the group, makes every effort to assure that the group has a positive impact on the employment of minorities and women in the industry, ensures that the concrete benefits of the program are reflected in the contractor's minority and female work force participation, makes a good faith effort to meet its individual goals and timetables, and can provide access to documentation which demonstrates the effectiveness of actions taken on behalf of the Contractor. The obligation to comply, however, is the Contractor's and failure of such a group to fulfill an obligation shall not be a defense for the Contractor's noncompliance.
 9. A single goal for minorities and a separate single goal for women have been established. The Contractor, however, is required to provide equal employment opportunity and take affirmative action for all minority groups, both male and female, and all women, both minority and non-minority. Consequently, the Contractor may be in violation of the Executive Order if a particular group is employed in a substantially disparate manner (for example, even though the Contractor may be in violation of the Executive Order if a specific minority group of women is underutilized).
 10. The Contractor shall not use the goals and timetables or affirmative action standards to discriminate against any person because of race, color, religion, sex, or national origin.
 11. The Contractor shall not enter into any Subcontract with any person or firm debarred from the Government contracts pursuant to the executive Order 11246.
 12. The Contractor shall carry out such sanctions and penalties for violation of these specifications and the Equal Opportunity Clause, including suspensions, termination and cancellation of the existing subcontracts as may be imposed or ordered pursuant to Executive Order 11246, as amended, and its implementing regulations, by the Office of the Federal Compliance Programs. Any Contractor who fails to carry out such sanctions and penalties shall be in violation of the specifications and Executive Order 11246, as amended.
 13. The Contractor, in fulfilling its obligations under these specifications, shall implement specific affirmative action steps, at least as extensive as those standards prescribed in paragraph 7 of these specifications, so as to achieve maximum results from its efforts to ensure equal employment opportunity. If the Contractor fails to comply with the requirements of the executive Order, the implementing regulations, or these specifications, the Director shall proceed in accordance with 41 CFR 60-4.8.
 14. The Contractor shall designate a responsible official to monitor all employment related activity to ensure that the company EEO policy is being carried out, to submit reports relating to the provisions hereof as may be required by the Government and to keep records. Records shall at least include for each employee the name, address, telephone numbers, construction trade, union affiliation if any employee identification number when assigned, social security number, race, sex status(e.g., Mechanic, apprentice, trainee, helper, or laborer), dates of changes in status, hours worked per week in the indicated trade, rate of pay, and location at which the work was performed. Records shall be maintained in an easily understandable and retrievable form; however, to the degree that the existing records satisfy this requirement, contractors shall not be required to maintain separate records.
 15. Nothing herein provided shall be construed as a limitation upon the application of other laws which establish different standards of compliance or upon the application of requirements for the hiring of local or other area residents(e.g. those under the Public Works Employment Act of 1977 and the Community Development Block Grant Program).

IN ACCORDANCE WITH THE PROVISIONS OF S.C.CODE ANN.§§ 39-3-10 ET.SEQ., 39-5-10 ET.SEQ.,15 U.S.C. §45; 23 C.F.R.§635.112(F); AND 28U.S.C.§1746, THAT I AM AN OFFICER OF THE PROPOSER FIRM AND, UNDER PENALTY OF PERJURY UNDER THE LAWS OF THE UNITED STATES AND SOUTH CAROLINA, DECLARE, BY MY CERTIFICATION BELOW, THAT THE FOLLOWING IS TRUE AND CORRECT, AND FURTHER, THAT THIS FIRM, ASSOCIATION OR CORPORATION HAS NOT, EITHER DIRECTLY OR INDIRECTLY, ENTERED INTO ANY AGREEMENT, PARTICIPATED IN ANY COLLUSION, OR OTHERWISE TAKEN ANY ACTION IN RESTRAINT OF FREE COMPETITIVE BIDDING IN CONNECTION WITH THE SUBMISSION OF A BID PROPOSAL ON THE ABOVE REFERENCED PROJECT.

BY CHECKING THIS BOX ☐, I CERTIFY THAT I HAVE READ, UNDERSTAND, ACCEPT, AND ACKNOWLEDGE ALL OF THE ABOVE STATEMENTS.

COMPLETE THE FOLLOWING ONLY IF HARD COPY BID PROPOSAL IS REQUIRED:

Executed on_____, 20__.

Signed: _____

(Officer/Proposer)

(Title)

(Company)

(Address)

SEAL

Superseded General Decision Number: SC20080022

State: South Carolina

Construction Type: Building

County: Florence County in South Carolina.

BUILDING CONSTRUCTION PROJECTS (does not include single family homes and apartments up to and including 4 stories)

Modification Number	Publication Date
0	03/12/2010

* SUSC1987-001 12/01/1987

	Rates	Fringes
Carpenter.....	\$ 7.33	
Electrician.....	\$ 8.13	
Laborer, general.....	\$ 7.25	
Plumber.....	\$ 8.27	.60
Power equipment operators:		
_Backhoe.....	\$ 7.25	
_Grader.....	\$ 7.25	
Sheet metal worker		
_includes HVAC duct work....	\$ 9.49	
Tile setter.....	\$ 9.50	
Truck driver.....	\$ 7.25	

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

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)).

In the listing above, the "SU" designation means that rates listed under the identifier do not reflect collectively bargained wage and fringe benefit rates. Other designations indicate unions whose rates have been determined to be prevailing.

WAGE DETERMINATION APPEALS PROCESS

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

* an existing published 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.

=====

END OF GENERAL DECISION

SECTION 01100-SUMMARY

PART 1-GENERAL

A.1 SUMMARY OF WORK

- A. PROJECT IDENTIFICATION: AS FOLLOWS:
- B. BASE BID –EXTERIOR STABILIZATION: Replacement of 6 large columns across front of house, replace existing column bases and add foundation as indicated in the drawings; replace front porch stair case, repair front porch headers, beams and girders, replace front porch wood decking as required in drawings; repair or replace any windows and doors as indicated in drawings; repair all masonry and plaster as required in drawings; and back porch repair as indicated in drawings.
- C. ALTERNATE NUMBER ONE: Remove and dispose of all exterior lead based paint as indicated in the Davis and Brown Certificate of Analysis dated June 21, 2010 and paint entire exterior of house to include, but not limited to, windows, doors, plaster and all areas that were previously painted per drawings.
- D. ALTERNATE NUMBER TWO: Install 12 inches of blown cellulose insulation in the attic to model energy code standards.

A.2 WORK RESTRICTIONS

- A. Contractor's use of premises: During construction, Contractor shall have full use of site at any time.

PART 2-PRODUCTS (Not applicable)

PART 3-EXECUTION (Not applicable)

END OF SECTION 01100

Section 00000-Lead Based Paint Removal and Disposal

Part 1- Information

This building has been tested for lead based paint and the results were positive. The attached information and report was performed by Davis and Brown post office box 150038 Quinby, South Carolina 29506 (843)- 665-6746. The General Contractor shall hire a company that specializes in the removal and disposal of lead based paint material. The company must have the proper credentials to perform this type of work. Prior to letting of the contract for this project the General Contractor shall provide to the Owner proof of all certification and any other documentation required by the regulatory agencies to perform lead based paint removal and disposal.

This work must be performed first prior to any other work being performed on the project.

End of Section 00000

Davis & Brown

PO Box 15038
Quincy, SC 29506
(843) 665-6746 FAX: (843) 629-1444

Certificate of Analysis

Client: RED DOE PLANTATION, INC
2515 MOSS WOOD DRIVE
FLORENCE, SC 29501

South Carolina Certification Number: 21117

Client #: 2618

Receipt Date: 03-Jun-10

Contact: SANDY KENDALL

Report Date: 21-Jun-10

Sample Date: 03-Jun-10

SDG #: SDG-073652

Approved By:

Van Ward

Van Ward

Lab Director

Parameter	Reporting				Flag	Date	Time	Analyst
	Result	Limit	Unit	Method				
LSID-161580	FRONT STEPS							
Acid Digestion (Solids)	YES			EPA 200.2		6/4/2010	10:00	JR
Lead, Total	27.9	2.2	mg/kg	SW846 6010C		6/9/2010	9:51	JR
LSID-161581	FRONT WINDOW SHUTTER							
Acid Digestion (Solids)	YES			EPA 200.2		6/4/2010	10:00	JR
Lead, Total	48220	451	mg/kg	SW846 6010C		6/9/2010	9:51	JR
LSID-161582	FRONT PORCH RAILS							
Acid Digestion (Solids)	YES			EPA 200.2		6/4/2010	10:00	JR
Lead, Total	7150	99.7	mg/kg	SW846 6010C		6/9/2010	9:51	JR
LSID-161583	STUCCO							
Acid Digestion (Solids)	YES			EPA 200.2		6/4/2010	10:00	JR
Lead, Total	429	79.7	mg/kg	SW846 6010C		6/9/2010	9:51	JR
LSID-161584	WINDOW SILL							
Acid Digestion (Solids)	YES			EPA 200.2		6/4/2010	10:00	JR
Lead, Total	6570	100	mg/kg	SW846 6010C		6/9/2010	9:51	JR

Davis & Brown

PO Box 15038
Quincy, SC 29506
(843) 665-6746 FAX: (843) 629-1444

Certificate of Analysis

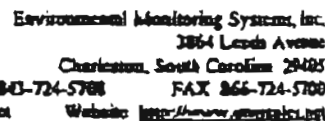
Client: RED DOE PLANTATION, INC
2515 MOSS WOOD DRIVE
FLORENCE, SC 29501
South Carolina Certification Number: 21117

Client #: 2618
Contact: SANDY KENDALL
Receipt Date: 03-Jun-10
Report Date: 21-Jun-10

Sample Date: 03-Jun-10
SDG #: SDG-073652

Approved By: *Van Ward*
Van Ward
Lab Director

Parameter	Reporting			Method	Flag	Date	Time	Analyst
	Result	Limit	Unit					
LSID-161585	BACK PORCH RAILS							
Acid Digestion (Solids)	YES			EPA 200.2		6/4/2010	10:00	JR
Lead, Total	7060	99.2	mg/kg	SW846 6010C		6/9/2010	9:51	JR
LSID-161586	BACK STAIRWELL							
Acid Digestion (Solids)	YES			EPA 200.2		6/4/2010	10:00	JR
Lead, Total	17890	113	mg/kg	SW846 6010C		6/9/2010	9:51	JR
LSID-161587	HOUSE SIDING							
Acid Digestion (Solids)	YES			EPA 200.2		6/4/2010	10:00	JR
Lead, Total	5920	104	mg/kg	SW846 6010C		6/9/2010	9:51	JR
LSID-161588	BACK SIDING							
Acid Digestion (Solids)	YES			EPA 200.2		6/4/2010	10:00	JR
Lead, Total	9970	99.2	mg/kg	SW846 6010C		6/9/2010	9:51	JR
LSID-161589	BACK SHUTTER							
Acid Digestion (Solids)	YES			EPA 200.2		6/4/2010	10:00	JR
Lead, Total	23750	98.3	mg/kg	SW846 6010C		6/9/2010	9:51	JR



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Coastal - Erosion _____ and Marine _____

- 1) Environmental Monitoring Systems
Sampling Devices, Pumps, Calibration Equipment, Microscopes,
Air Scrubbers, HEPA Vacuum, Respirators, PPE, IAQ
Diagnostics and related IAQ Supplies. 3864 Leeds Avenue,
Charlotte, NC 29405, TEL. 800-297-3021,
<http://www.environmental.net>
- 2) XRF Equipment (X-ray Tube) - <http://www.xrf-equipment.com>
- 3) XRF Equipment (Cd109 Source) - <http://www.xrf-usa.com/>
- 4) State RAD Regulations - <http://www.state.gov/Main/main.asp>
- 5) Training -
http://efish.org.au/fishsearch.cfm?American_Toxic_training
- 6) Code of Federal Regulations <http://www.access.gpo.gov/cfr/index.html>
- 7) HUD Guidelines - <http://www.hud.gov/offices/hud/hudrc.htm>
- 8) HUD/HEPA Resources - <http://www.hud.gov/hepa/>
- 9) HUD Lead Based Control <http://www.hud.gov/leadcontrol.html>
- 10) HUD Office Reference Library -
<http://www.hud.gov/offices/hud/hudrc/hudrcfoadofn>
- 11) Evaluation of LEP Inspections <http://www.hud.gov/cas/fireport.html>
- 12) CDC Lead Program - <http://www.cdc.gov/lead/>
- 13) OSHA - <http://www.osha-slc.org>
- 14) OSHA Lead in Construction Tech Manual -
http://www.osha-slc.org/construction/tech/vol_1.html
- 15) OSHA Asbestos & Lead Manuals -
http://www.osha-slc.org/asbestos/tech/vol_1.html
- 16) National Lead Information Center -
<http://www.nic.com/einfo/center/nlic.htm>
- 17) Global Lead Network <http://www.globalnetwork.org>
- 18) Pb Poisoning Prevention <http://www.scll.org/newsroom/newsitem6648.htm>
- 19) Alliance to End Childhood Lead Poisoning -
<http://www.alc.org/aboutus.aspx?url=aboutus.htm>
- 20) CLEAR Corps - Community Lead Education and Reduction Corps -
<http://www.clearcorps.org/>
- 21) National Paint and Coatings Association (NPCA) <http://www.npcanet.org>
- 22) Real Estate Disclosure - <http://www.hudhelp.com/>
- 23) Lead Smart Homes - <http://www.leadsmarthomes.com/>
- 24) LBP and Historical Preservation
<http://oldhouseweb.com/articles/leadpainting.html#footnote57>
<http://usa.gov/whitehouse/initiative176.htm>
- 25) National Institute of Building Sciences - LBP O&M and Specifications
<http://www.nibs.org/>
- 26) ES Money - LBP Assessment Cost Est - <http://www.esmoney.com>
- 27) American Institute of Architects - <http://www.aiajournalist.com>
- 28) ASTM Standards on Lead Hazards Associated with Buildings -
<http://www.ASTM.com>
- 29) Steel Structure Painting Council - <http://www.stpc.org>
- 30) Lead Listing - <http://www.leadlisting.org/>
- 31) ELPAT Lab - <http://www.sln.org/CURRENT/ELPP/PAT.PAT.htm>
- 32) American Lead Laboratory Accreditation Program (ALLAP)
<http://www.sln.org>
- 33) Association of Environmental Health of Soils - www.ehsa.com
- 34) Lead Contaminants in Soils - Impact on Public Health -
<http://www.epa.gov/osceola/leadcontamination/00010015m0000015.m>



MEMORANDUM

January 9, 1997

DIVISION OF SOLID WASTE PLANNING & RECYCLING

*Attention: Construction, Demolition & Land-clearing Debris (C&D) Landfills
Parts I, III, & IV*

The Department has received numerous calls in recent months regarding the acceptability of painted items at C&D landfills. Regulation 61-107.11 Construction, Demolition and Land-Clearing Debris Landfills states that wastes painted with lead-based paint are not acceptable at C&D landfills. The regulation does not specify a detection limit for determining if a paint is considered lead-based paint. When paint is analyzed for lead content, there appears to be confusion concerning an acceptable concentration.

In 1978, the U.S. Consumer Product Safety Commission implemented the legal maximum lead content of house paint at 0.06% (i.e., 600 ppm.) Painted items containing greater than 0.06% lead are NOT acceptable for disposal at C&D landfills. Landfills will need proof of lead levels before accepting painted items, e.g., analytical data or proof that the structure was constructed subsequent to 1978. Since the C&D regulation currently states that items painted with lead-based paint are not acceptable, and since paints containing greater than 0.06% lead are considered lead-based paint, a revision to the regulation is not required.

If you have any questions concerning this matter, feel free to contact either your local Department EQC Office, or Ellen Jennings (803-896-4203), Harold Seabrook (803-896-4120), or me (803-896-4202).



Art Braswell, Manager
Solid Waste Regulation Development,
Planning & Compliance Section

DAVIS & BROWN

Page of

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* Foreign Area: D - Drinking Water / Q - Groundwater / S - Solid / W - Waste Water / N - NPODES / O - Other

SECTION 01200 - PRICE AND PAYMENT PROCEDURES

PART 1 - GENERAL

1.1 CONTRACT MODIFICATION PROCEDURES

- A. On Owner's approval of a proposal from Contractor, Architect will issue a Change Order on AIA Document G701, for all changes to Contract Sum or Contract Time.
- B. When Owner and Contractor disagree on the terms of a proposal, Architect may issue a Construction Change Directive on AIA Document G714, instructing Contractor to proceed with the change. Construction Change Directive will contain a description of the change and designate the method to be followed to determine changes to Contract Sum or Contract Time.

1.2 PAYMENT PROCEDURES

- A. Submit a Schedule of Values at least 10 days before the first Application for Payment. In Schedule of Values, break down Contract Sum into at least one line item for each Specification Section. Correlate the Schedule of Values with Contractor's Construction Schedule.
- B. Submit three copies of each application for payment on AIA Document G702/703, according to the schedule established in Owner/Contractor Agreement.
 - 1. For the second Application for Payment through the Application for Payment submitted at Substantial Completion, submit partial releases of liens from each subcontractor or supplier for whom amounts were requisitioned in the previous Application for Payment.
 - 2. Submit final Application for Payment after completion of Project closeout procedures with release of liens and supporting documentation. Include consent of surety to final payment and insurance certificates.

PART 2 - PRODUCTS (Not Applicable)

PART 3 - EXECUTION (Not Applicable)

END OF SECTION 01200

SECTION 01300 - ADMINISTRATIVE REQUIREMENTS

PART 1 - GENERAL

1.1 PROJECT MANAGEMENT AND COORDINATION

- A. Verify layout information shown on Drawings, in relation to property survey and existing benchmarks, before laying out the Work.
- B. Coordinate construction to ensure efficient and orderly execution of each part of the Work.
- C. Progress meetings will be held at Project site every month. Notify Owner and Architect of meeting dates. Each subcontractor or other entity concerned with current progress or involved with planning or coordination of future activities, shall attend.
 - 1. Prepare minutes of each meeting and distribute to parties present.

1.2 CONSTRUCTION SCHEDULE

- A. Prepare a horizontal bar-chart construction schedule. Provide a separate time bar for each activity and a vertical line to identify the first workday of each week. Use same breakdown of Work indicated in the Schedule of Values. As Work progresses, mark each bar to indicate actual completion.
 - 1. Submit within 30 days after date established for Commencement of the Work.
 - 2. Coordinate each element with other activities. Show each activity in proper sequence. Indicate sequences necessary for completion of related Work.
 - 3. Indicate Substantial Completion and allow time for Architect's procedures necessary for certifying Substantial Completion.
 - 4. Schedule Distribution: Distribute copies to Owner, Architect, subcontractors, and parties required to comply with dates.
 - 5. Updating: Revise the schedule after each meeting or activity where revisions have been made. Distribute revised copies to Owner, Architect, subcontractors, and parties required to comply with dates.

1.3 SUBMITTAL PROCEDURES

- A. Coordinate submittal preparation with construction schedule, fabrication lead-times, other submittals, and activities that require sequential operations.
 - 1. No extension of Contract Time will be authorized due to failure to transmit submittals in time to permit processing sufficiently in advance of when materials are required in the Work.
 - 2. Architect will not accept submittals from sources other than Contractor.

- B. Prepare submittals by placing a permanent label on each for identification. Provide a 4- by 5-inch space on the label or beside title block to record review and approval markings and action taken. Include the following information on the label:
1. Project name.
 2. Date.
 3. Name and address of Contractor.
 4. Name and address of subcontractor or supplier.
 5. Number and title of appropriate Specification Section.
 6. Contractor's certification that materials comply with specified requirements.
- C. Coordinate each submittal with other submittals and with work that does not require submittals.
- D. Product Data: Mark each copy to show applicable choices and options. Include the following:
1. Data indicating compliance with specified standards and requirements.
 2. Notation of coordination requirements.
 3. For equipment data, include rated capacities, dimensions, weights, required clearances, and furnished specialties and accessories.
- E. Shop Drawings: Submit newly prepared information drawn to scale. Do not reproduce Contract Documents or copy standard information. Submit 1 reproducible print and 1 blue- or black-line print on sheets at least 8-1/2 by 11 inches but no larger than 30 by 42 inches. Architect will return the reproducible print. Include the following:
1. Dimensions, profiles, methods of attachment, coordination with adjoining work, large scale details, and other information, as appropriate for the Work.
 2. Identification of products and materials.
 3. Notation of coordination requirements.
 4. Notation of dimensions established by field measurement.
 5. Identification of deviations from Contract Documents.
- F. Samples: Submit Samples finished as specified and identical with the material proposed. Where variations are inherent in the material, submit sufficient units to show limits of the variations. Include product name or name of the manufacturer.
- G. Architect will review each submittal, mark as appropriate to indicate action taken, and return copies less those retained. Compliance with specified requirements remains Contractor's responsibility.

PART 2 - PRODUCTS (Not Applicable)

PART 3 - EXECUTION (Not Applicable)

END OF SECTION 01300

SECTION 01355- RESTORATION PROJECT PROCEDURES

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Definitions.
 - 2. Historic significance.
 - 3. Restoration procedures.
 - 4. Historic artifacts.
 - 5. Salvaged materials.
 - 6. Alterations.
 - 7. Hazardous material procedures.
- B. Related Sections:
 - 1. Division 1: Administrative, procedural, and temporary work requirements.

1.2 DEFINITIONS

- A. Match Existing: Provide new materials to match the existing, in place material in all aspects as closely as possible. Existing materials are those which are visible in whole or in part in the building.
- B. Match Original: Provide new materials to match the original material in all aspects as closely as possible. Original materials are those which were originally installed in the building at the time of its completion, prior to previous alterations, and which may predate existing materials.
- C. Preservation: The act or process of applying measures necessary to sustain the existing form, integrity, and materials of an historic property.
- D. Reconstruction: The act or process of reproducing, by means of new construction, the form, features, and detailing of a non-surviving building, structure, or object for the purpose of replicating its appearance at a specific period of time and in its historic location.
- E. Restoration: The act or process of accurately depicting the form, features, and character as it appeared at a particular time by means of the removal of features from other periods in its history and reconstruction of missing features from the restoration period.

1.3 QUALITY ASSURANCE

- A. Historic Significance:
 - 1. The existing building is within a National Register Historic District.
 - 2. Due to its unique historical significance, special procedures and precautions must be used in selective demolition and restoration.
- B. Restoration Procedures:
 - 1. Preserve existing and original materials, finishes, and profiles.
 - 2. Blend new and existing or original work to provide smooth transitions and uniform appearance.
 - 3. Cease work, notify Architect, and await instructions if materials or conditions encountered at the site are not as indicated by the Contract Documents or if structure is in danger of movement or collapse.

- C. Historic Artifacts: If artifacts of a historic nature are encountered during the Work:
 - 1. Cease work in the affected area immediately.
 - 2. Protect artifacts from damage.
 - 3. Notify Owner and Architect and await instructions.
 - 4. Salvage or dispose of artifacts as directed by the Owner.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. New Materials:
 - 1. Provide new materials to match existing or original adjacent materials or original materials for closing of openings, repairs, and reconstructions where suitable salvaged materials do not exist, are insufficient in quantity, or where reuse is not permitted.
 - 2. Retain samples of existing and original materials on site for comparison purposes.
 - 3. Match existing or original materials in material, type, size, quality, color, finish, and other attributes.
- B. Reused Materials:
 - 1. Clean and prepare salvaged materials for reuse.
 - 2. Do not use materials with objectionable chips, cracks, splits, dents, scratches, or other defects.
 - 3. Repair operable items to function properly.

PART 3 - EXECUTION

3.1 PREPARATION

- A. Test materials to be used in repairs for compatibility with existing or original materials; do not use incompatible materials.
- B. Cut, move, or remove items to provide access for alterations and restoration work. Replace and restore upon completion.
- C. Protect existing and original materials and surfaces from damage by construction operations.

3.2 ALTERATIONS

- A. Coordinate alterations and renovations to expedite completion.
- B. Minimize damage to existing and original materials and surfaces; provide means for restoring products and finishes to their original or specified new condition.
- C. Remove unsuitable materials not marked for salvage.
- D. Remove debris and abandoned items from areas of work and from concealed spaces.
- E. Refinish visible surfaces to specified condition, with neat transition to adjacent surfaces.
- F. Install products and finish surfaces as specified in individual sections, or where no specification section exists, to match existing.
- G. Finish patches to provide uniform color and texture over entire surface, with repairs not discernible from normal viewing distance. If finish cannot be matched, refinish entire surface to nearest intersections.

- H. Rework finished surfaces to smooth plane, without breaks, steps, or bulkheads:
 - 1. Where new work abuts or aligns with existing, provide smooth and even transition.
 - 2. Where a change in plane of 1/4 inch {6 mm} or more occurs, submit recommendation to Architect for transition.
- I. Where alterations expose mechanical and electrical components which were previously concealed, rework to be concealed in completed work.

END OF SECTION 01355

SECTION 01500 - TEMPORARY FACILITIES AND CONTROLS

PART 1 - GENERAL

1.1 SECTION REQUIREMENTS

- A. Standards: Comply with NFPA 241, "Standard for Safeguarding Construction, Alterations, and Demolition Operations"; ANSI A10 Series standards for "Safety Requirements for Construction and Demolition"; and NECA Electrical Design Library's "Temporary Electrical Facilities."
 - 1. Electrical Service: Comply with NEMA, NECA, and UL standards and regulations for temporary electric service. Install service to comply with NFPA 70.
- B. At the earliest possible time, when acceptable to Owner, change over from use of temporary utility services to use of permanent utilities.
- C. Remove temporary facilities and controls before Substantial Completion. Personnel remaining after Substantial Completion will be permitted to use permanent facilities, under conditions acceptable to Owner.
- D. Soil and Erosion Control: Install and maintain "Silt Fencing" as indicated on the "Architectural Site Plan"

PART 2 - PRODUCTS (Not Applicable)

PART 3 - EXECUTION

3.1 TEMPORARY UTILITIES

- A. Provide temporary utility services to Project site for use during construction. Arrange for and coordinate utility services with local utility companies.
 - 1. Contractor shall also pay use charges for temporary utilities.
- B. Provide temporary heat for curing or drying of work, and for protection of new construction from adverse effects of low temperatures. Use of gasoline-burning heaters and open-flame heaters is not permitted.

3.2 CONSTRUCTION FACILITIES

- A. Provide field offices, storage trailers, and other support facilities as necessary for efficient prosecution of the Work.
 - 1. Temporary facilities located within the construction area or within 30 feet (9 m) of building lines shall be of noncombustible construction.

- B. Provide temporary sanitary facilities. Comply with regulations and health codes for type, number, location, and maintenance of facilities.
- C. Provide temporary enclosures for protection of construction and workers from exposure and inclement weather and for containment of heat.
- D. Install project identification and other signs in locations indicated to inform the public and persons seeking entrance to Project.
- E. Collect waste daily and, when containers are full, legally dispose of waste off-site.
 - 1. Handle hazardous, dangerous, or unsanitary waste materials in separate closed waste containers. Dispose of material according to applicable laws and regulations.

3.3 TEMPORARY CONTROLS

- A. Provide temporary fire protection until permanent systems supply fire-protection needs.
 - 1. Provide adequate numbers and types of fire extinguishers.
 - 2. Store combustible materials in fire-safe containers in fire-safe locations.
 - 3. Prohibit smoking in hazardous fire-exposure areas.
 - 4. Supervise welding operations, combustion-type temporary heating units, and similar sources of fire ignition.
- B. Provide temporary barricades, warning signs, and lights to protect the public and construction personnel from construction hazards.
 - 1. Enclose construction areas with fences with lockable entrance gates, to prevent unauthorized access.
- C. Provide temporary environmental controls as required by authorities having jurisdiction including, but not limited to, erosion and sediment control, dust control, noise control, and pollution control.

END OF SECTION 01500

SECTION 01600 - PRODUCT REQUIREMENTS

PART 1 - GENERAL

1.1 SECTION REQUIREMENTS

- A. Provide products of same kind from a single source. The term "product" includes the terms "material," "equipment," "system," and similar terms.
- B. Deliver, store, and handle products according to manufacturer's written instructions, using means and methods that will prevent damage, deterioration, and loss, including theft.
 - 1. Schedule delivery to minimize long-term storage and to prevent overcrowding construction spaces.
 - 2. Deliver in manufacturer's original sealed packaging with labels and written instructions for handling, storing, protecting, and installing.
 - 3. Inspect products at time of delivery for compliance with the Contract Documents and to ensure items are undamaged and properly protected.
 - 4. Store heavy items in a manner that will not endanger supporting construction.
 - 5. Store products subject to damage on platforms or pallets, under cover in a weathertight enclosure, with ventilation adequate to prevent condensation. Maintain temperature and humidity within range required.
- C. Product Substitutions: Reasonable and timely requests for substitutions will be considered **Ten days prior to the bid date**. Substitutions include products and methods of construction differing from that required by the Contract Documents.
 - 1. Submit four copies of each request for product substitution. Identify product to be replaced and provide complete documentation showing compliance of proposed substitution with applicable requirements. Include a full comparison with the specified product, a list of changes to other Work required to accommodate the substitution, and any proposed changes in Contract Sum or Contract Time should the substitution be accepted.
 - 2. Submit requests for product substitution in time to permit processing of request and subsequent Submittals, if any, sufficiently in advance of when materials are required in the Work. Do not submit unapproved substitutions on Shop Drawings or other submittals.
 - 3. Architect will review the proposed substitution and notify Contractor of its acceptance or rejection.

PART 2 - PRODUCTS

2.1 PRODUCT OPTIONS

- A. Provide products that comply with the Contract Documents, are undamaged, and are new at the time of installation.
 - 1. Provide products complete with accessories, trim, finish, and other devices and components needed for a complete installation and the intended use and effect.
- B. Do not attach manufacturer's labels or trademarks, except for required nameplates, on surfaces exposed to view in occupied spaces or on the exterior.

C. Select products as follows:

1. Where only a single product or manufacturer is named, provide the item indicated. No substitutions will be permitted.
2. Where two or more products or manufacturers are named, provide one of the items indicated. No substitutions will be permitted.
3. Where products or manufacturers are specified by name, accompanied by the term "or equal," provide the named item or comply with provisions concerning "product substitutions" to obtain approval for use of an unnamed product or manufacturer.
4. Where a product is described with required characteristics, with or without naming a brand or trademark, provide a product that complies with those characteristics and other Contract requirements.
5. Where compliance with performance requirements is specified, provide products that comply and are recommended in writing by the manufacturer for the application.
6. Where compliance with codes, regulations, or standards, is specified, select a product that complies with the codes, regulations, or standards referenced.

D. Unless otherwise indicated, Architect will select color, pattern, and texture of each product from manufacturer's full range of options.

PART 3 - EXECUTION (Not Applicable)

END OF SECTION 01600

SECTION 01700 - EXECUTION REQUIREMENTS

PART 1 - GENERAL

1.1 CLOSEOUT SUBMITTALS

- A. Record Drawings: Maintain a set of Contract Drawings as Record Drawings. Mark to show installation that varies from the Work originally shown.
- B. Record Specifications: Maintain one copy of the Project Manual, including addenda, as Record Specifications. Mark to show variations in Work performed in comparison with the text of the Specifications and modifications.
- C. Operation and Maintenance Data: Organize data into three-ring binders, with pocket folders for folded sheet information. Mark identification on front and spine of each binder. Include the following:
 - 1. Emergency instructions.
 - 2. Spare parts list.
 - 3. Copies of warranties.
 - 4. Wiring diagrams.
 - 5. Shop Drawings and Product Data.
- D. HVAC balancing report: The Heating & Air system to be balanced to the flows and velocities shown on the mechanical drawings. Provide certification that the HVAC system has been balanced to the flows & velocities as indicated on the mechanical drawings.
- E. Water sterilization: The potable water system shall be sterilized in accordance with DHEC acceptable methods. The water shall be

PART 2 - PRODUCTS (Not Applicable)

PART 3 - EXECUTION

3.1 EXAMINATION AND PREPARATION

- A. Examine substrates and conditions for compliance with manufacturer's written requirements including, but not limited to, surfaces that are sound, level, and plumb; substrates within installation tolerances; surfaces that are smooth, clean, and free of deleterious substances; and application conditions within environmental limits. Proceed with installation only after unsatisfactory conditions have been corrected.
- B. Prepare substrates and adjoining surfaces according to manufacturer's written instructions, including, but not limited to, filler and primer application.
- C. Where Drawings indicate dimensions of existing construction verify by field measurement. Where fabricated products are to be fitted to other construction verify dimensions by field measurement before fabricating and, when possible, allow for fitting and trimming during installation.

3.2 CUTTING AND PATCHING

- A. Do not cut structural members without prior written approval of Architect.
- B. For patching, provide materials whose installed performance will equal or surpass that of existing materials. For exposed surfaces, provide or finish materials to visually match existing adjacent surfaces to the fullest extent possible.

3.3 INSTALLATION

- A. Comply with manufacturers written instructions for installation. Anchor each product securely in place, accurately located and aligned. Clean exposed surfaces and protect from damage. If applicable, prepare surfaces for field finishing.
- B. Comply with NFPA 70 for installation of electrically operated equipment and electrical components and materials.

3.4 FINAL CLEANING

- A. Clean each surface or item as follows before requesting inspection for certification of Substantial Completion:
 - 1. Remove labels that are not permanent.
 - 2. Clean transparent materials, including mirrors. Remove excess glazing compounds. Replace chipped or broken glass.
 - 3. Clean exposed finishes to a dust-free condition, free of stains, films, and foreign substances. Leave concrete floors broom clean.
 - 4. Vacuum carpeted surfaces and wax resilient flooring.
 - 5. Wipe surfaces of mechanical and electrical equipment. Remove excess lubrication. Clean plumbing fixtures. Clean light fixtures and lamps.
 - 6. Clean the site. Sweep paved areas; remove stains, spills, and foreign deposits. Rake grounds to a smooth, even-textured surface.

3.5 CLOSEOUT PROCEDURES

- A. Request Substantial Completion inspection once the following are complete:
 - 1. Advise Owner of pending insurance changeover requirements.
 - 2. Submit Record Drawings, maintenance manuals, warranties, and similar record information.
 - 3. Deliver spare parts, extra materials, and similar items.
 - 4. Changeover locks and transmit keys to Owner.
 - 5. Complete startup testing of systems and instruction of operation and maintenance personnel.
 - 6. Remove temporary facilities and controls.
 - 7. Complete final cleanup.
 - 8. Touch up, repair, and restore marred, exposed finishes.
 - 9. Obtain final inspections from authorities having jurisdiction.
 - 10. Obtain certificate of occupancy.
- B. On receipt of a request for inspection, Architect will proceed with inspection or advise Contractor of unfilled requirements. Architect will prepare the Certificate of Substantial Completion after inspection or advise Contractor of items that must be completed or corrected before the certificate will be issued.

- C. Arrange for each installer of equipment that requires operation and maintenance to provide instruction to Owner's personnel. Include a detailed review of the following:
1. Startup and shutdown.
 2. Emergency operations and safety procedures.
 3. Noise and vibration adjustments.
 4. Maintenance manuals.
 5. Spare parts, tools, and materials.
 6. Lubricants and fuels.
 7. Identification systems.
 8. Control sequences.
 9. Hazards.
 10. Warranties and bonds.
- D. Request inspection for certification of final acceptance, once the following are complete:
1. Submit a copy of the Substantial Completion inspection list stating that each item has been completed or otherwise resolved for acceptance.
 2. Submit final meter readings for utilities, a record of stored fuel, and similar data as of the date of Substantial Completion.
- E. Architect will reinspect the Work on receipt of notice that the Work has been completed.
1. On completion of reinspection, Architect will prepare a certificate of final acceptance. If the Work is incomplete, Architect will advise Contractor of the Work that is incomplete or obligations that have not yet been fulfilled.

END OF SECTION 01700

SECTION 02361 - TERMITE CONTROL

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. This Section includes the following:
 - 1. Soil treatment with termiticide, (contractor shall be aware that this is treatment for an existing building).

1.3 PERFORMANCE REQUIREMENTS

- A. Service Life of Soil Treatment: Soil treatment by use of a termiticide that is effective for not less than five years against infestation of subterranean termites.

1.4 SUBMITTALS

- A. Product Data: For termiticide.
 - 1. Include the EPA-Registered Label for termiticide products.
- B. Product Certificates: For termite control products, signed by product manufacturer.
- C. Qualification Data: For Installer of termite control products.
- D. Soil Treatment Application Report: After application of termiticide is completed, submit report for Owner's record information, including the following:
 - 1. Date and time of application.
 - 2. Moisture content of soil before application.
 - 3. Brand name and manufacturer of termiticide.
 - 4. Quantity of undiluted termiticide used.
 - 5. Dilutions, methods, volumes, and rates of application used.
 - 6. Areas of application.
 - 7. Water source for application.
- E. Warranty: Special warranty specified in this Section.

1.5 QUALITY ASSURANCE

- A. Installer Qualifications: A specialist who is licensed according to regulations of authorities having jurisdiction to apply termite control treatment and products in jurisdiction where Project is located.
- B. Regulatory Requirements: Formulate and apply termiticides according to the EPA-Registered Label.
- C. Source Limitations: Obtain termite control products through one source.

1.6 PROJECT CONDITIONS

- A. Environmental Limitations: To ensure penetration, do not treat soil that is water saturated or frozen. Do not treat soil while precipitation is occurring. Comply with requirements of the EPA-Registered Label and requirements of authorities having jurisdiction.

1.7 COORDINATION

- A. Coordinate soil treatment application with excavating, filling, grading, and concreting operations. Treat soil under footings, grade beams, and ground-supported slabs before construction.

1.8 WARRANTY

- A. Special Warranty: Manufacturer's standard form, signed by Applicator and Contractor certifying that termite control work, consisting of applied soil termiticide treatment, will prevent infestation of subterranean termites. If subterranean termite activity or damage is discovered during warranty period, re-treat soil and repair or replace damage caused by termite infestation.

- 1. Warranty Period: Five years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 SOIL TREATMENT

- A. Termiticide: Provide an EPA-registered termiticide complying with requirements of authorities having jurisdiction, in an aqueous solution formulated to prevent termite infestation. Provide quantity required for application at the label volume and rate for the maximum termiticide concentration allowed for each specific use, according to product's EPA-Registered Label.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine substrates, areas, and conditions, with Applicator present, for compliance with requirements for moisture content of soil, interfaces with earthwork, slab and foundation work, landscaping, and other conditions affecting performance of termite control.

- 1. Proceed with application only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

- A. General: Comply with the most stringent requirements of authorities having jurisdiction and with manufacturer's written instructions for preparation before beginning application of termite control treatment. Remove all extraneous sources of wood cellulose and other edible materials such as wood debris, tree stumps and roots, stakes, formwork, and construction waste wood from soil within and around foundations.

3.3 APPLICATION, GENERAL

- A. General: Comply with the most stringent requirements of authorities having jurisdiction and with manufacturer's EPA-Registered Label for products.

3.4 APPLYING SOIL TREATMENT

- A. Application: Mix soil treatment termiticide solution to a uniform consistency. Provide quantity required for application at the label volume and rate for the maximum specified concentration of termiticide, according to manufacturer's EPA-Registered Label, to the following so that a continuous horizontal and vertical termiticidal barrier or treated zone is established around and under building construction. Distribute treatment evenly.
 - 1. Slabs-on-Grade and Basement Slabs: Under ground-supported slab construction, including footings, building slabs, and attached slabs as an overall treatment. Treat soil materials before concrete footings and slabs are placed.
 - 2. Foundations: Adjacent soil including soil along the entire inside perimeter of foundation walls, along both sides of interior partition walls, around plumbing pipes and electric conduit penetrating the slab, and around interior column footers, piers, and chimney bases; also along the entire outside perimeter, from grade to bottom of footing. Avoid soil washout around footings.
 - 3. Masonry: Treat voids.
 - 4. Penetrations: At expansion joints, control joints, and areas where slabs will be penetrated.
- B. Avoid disturbance of treated soil after application. Keep off treated areas until completely dry.
- C. Protect termiticide solution, dispersed in treated soils and fills, from being diluted until ground-supported slabs are installed. Use waterproof barrier according to EPA-Registered Label instructions.
- D. Post warning signs in areas of application.
- E. Reapply soil treatment solution to areas disturbed by subsequent excavation, grading, landscaping, or other construction activities following application.

END OF SECTION 02361

2 Preservation Briefs

Technical Preservation Services
National Park Service
U.S. Department of the Interior



Repointing Mortar Joints in Historic Masonry Buildings

Robert C. Mack, FAIA, and John P. Speweik

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- » Identifying the Problem Before Repointing
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A NOTE TO OUR USERS: The web versions of the *Preservation Briefs* differ somewhat from the printed versions. Many illustrations are new, captions are simplified, illustrations are typically in color rather than black and white, and some complex charts have been omitted.

Masonry—brick, stone, terra-cotta, and concrete block—is found on nearly every historic building. Structures with all-masonry exteriors come to mind immediately, but most other buildings at least have masonry foundations or chimneys. Although generally considered "permanent," masonry is subject to deterioration, especially at the mortar joints. Repointing, also known simply as "pointing" or—somewhat inaccurately—"tuck pointing"*, is the process of removing deteriorated mortar from the joints of a masonry wall and replacing it with new mortar. Properly done, repointing restores the visual and physical integrity of the masonry. Improperly done, repointing not only detracts from the appearance of the building, but may also cause physical damage to the masonry units themselves.

The purpose of this Brief is to provide general guidance on appropriate materials and methods for repointing historic masonry buildings and it is intended to benefit building owners, architects, and contractors. The Brief should serve as a guide to prepare specifications for repointing historic masonry buildings. It should also help develop sensitivity to the particular needs of historic masonry, and to assist historic building owners in working cooperatively with architects, architectural conservators and historic preservation consultants, and contractors. Although specifically intended for historic buildings, the guidance is appropriate for other masonry buildings as well. This publication updates *Preservation Briefs 2: Repointing Mortar Joints in Historic Brick Buildings* to include all types of historic unit masonry. The scope of the earlier Brief has

also been expanded to acknowledge that the many buildings constructed in the first half of the 20th century are now historic and eligible for listing in the National Register of Historic Places, and that they may have been originally constructed with portland cement mortar.

**Tuckpointing technically describes a primarily decorative application of a raised mortar joint or lime putty joint on top of flush mortar joints.*

Historical Background

Mortar consisting primarily of lime and sand has been used as an integral part of masonry structures for thousands of years. Up until about the mid-19th century, lime or quicklime (sometimes called lump lime) was delivered to construction sites, where it had to be slaked, or combined with water. Mixing with water caused it to boil and resulted in a wet lime putty that was left to mature in a pit or wooden box for several weeks, up to a year. Traditional mortar was made from lime putty, or slaked lime, combined with local sand, generally in a ratio of 1 part lime putty to 3 parts sand by volume. Often other ingredients, such as crushed marine shells (another source of lime), brick dust, clay, natural cements, pigments, and even animal hair were also added to mortar, but the basic formulation for lime putty and sand mortar remained unchanged for centuries until the advent of portland cement or its forerunner, Roman cement, a natural, hydraulic cement.

Portland cement was patented in Great Britain in 1824. It was named after the stone from Portland in Dorset which it resembled when hard. This is a fast-curing, hydraulic cement which hardens under water. Portland cement was first manufactured in the United States in 1872, although it was imported before this date. But it was not in common use throughout the country until the early 20th century. Up until the turn of the century portland cement was considered primarily an additive, or "minor ingredient" to help accelerate mortar set time. By the 1930s, however, most masons used a mix of equal parts portland cement and lime putty. Thus, the mortar found in masonry structures built between 1873 and 1930 can range from pure lime and sand mixes to a wide variety of lime, portland cement, and sand combinations.

In the 1930s more new mortar products intended to hasten and simplify masons' work were introduced in the U.S. These included **masonry cement**, a premixed, bagged mortar which is a combination of portland cement and ground limestone, and **hydrated lime**, machine-slaked lime that eliminated the necessity of slaking quicklime into putty at the site.

Identifying the Problem Before Repointing

The decision to repoint is most often related to some obvious sign of deterioration, such as disintegrating mortar, cracks in mortar joints, loose bricks or stones, damp walls, or damaged plasterwork. It is, however, erroneous to assume that repointing alone will solve deficiencies that result from other problems. The root cause of the deterioration--leaking roofs or gutters, differential settlement of the building, capillary action causing rising damp, or extreme weather exposure--should always be dealt with prior to beginning work. Without appropriate repairs to eliminate the source of the problem, mortar deterioration will continue and any

repointing will have been a waste of time and money.

Use of Consultants. Because there are so many possible causes for deterioration in historic buildings, it may be desirable to retain a consultant, such as a historic architect or architectural conservator, to analyze the building. In addition to determining the most appropriate solutions to the problems, a consultant can prepare specifications which reflect the particular requirements of each job and can provide oversight of the work in progress. Referrals to preservation consultants frequently can be obtained from State Historic Preservation Offices, the American Institute for Conservation of Historic and Artistic Works (AIC), the Association for Preservation Technology (APT), and local chapters of the American Institute of Architects (AIA).



Masons practice using lime putty mortar to repair historic marble. Photo: NPS files.

Finding an Appropriate Mortar Match

Preliminary research is necessary to ensure that the proposed repointing work is both physically and visually appropriate to the building. Analysis of unweathered portions of the historic mortar to which the new mortar will be matched can suggest appropriate mixes for the repointing mortar so that it will not damage the building because it is excessively strong or vapor impermeable. Examination and analysis of the masonry units—brick, stone or terra cotta—and the techniques used in the original construction will assist in maintaining the building's historic appearance. A simple, non-technical, evaluation of the masonry units and mortar can provide information concerning the relative strength and permeability of each—critical factors in selecting the repointing mortar—while a visual analysis of the historic mortar can provide the information necessary for developing the new mortar mix and application techniques.



This late 19th century granite has recently been repointed with the joint profile and mortar color carefully matched to the original. Photo: NPS files.

Although not crucial to a successful repointing project, for projects involving properties of special historic significance, a mortar analysis by a qualified laboratory can be useful by providing information on the original ingredients. However, there are limitations with such an analysis, and replacement mortar specifications should not be based solely on laboratory analysis. Analysis requires interpretation, and there are important factors which affect the condition and performance of the mortar that cannot be established through laboratory analysis. These may include: the original water content, rate of curing, weather conditions during original construction, the method of mixing and placing the mortar, and the cleanliness and condition of the sand. *The most useful information that can come out of laboratory analysis is the identification of sand by gradation and color.* This allows the color and the texture of the mortar to be matched with some accuracy because sand is the largest ingredient by volume.

In creating a repointing mortar that is compatible with the masonry units, the objective is to achieve one that matches the historic mortar as closely as possible, so that the new material can coexist with the old in a sympathetic, supportive and, if necessary, sacrificial capacity. The exact physical and chemical properties of the historic mortar are not of major significance as long as the new mortar conforms to the following criteria:

- The new mortar must match the historic mortar in **color, texture and tooling**. (If a laboratory analysis is undertaken, it may be possible to match the binder components and their proportions with the historic mortar, if those materials are available.)
- The **sand must match the sand** in the historic mortar. (The color and texture of the new mortar will usually fall into place if the sand is matched successfully.)
- The new mortar must have **greater vapor permeability** and be **softer** (measured in compressive strength) than the masonry units.
- The new mortar must be **as vapor permeable** and **as soft or softer** (measured in compressive strength) than the historic mortar. (Softness or hardness is not necessarily an indication of permeability; old, hard lime mortars can still retain high permeability.)



This mortar is the proper consistency for repointing historic brick. Photo: John P. Spewak.

Mortar Analysis

Methods for analyzing mortars can be divided into two broad categories: **wet chemical** and **instrumental**. Many laboratories that analyze historic mortars use a simple **wet-chemical** method called **acid digestion**, whereby a sample of the mortar is crushed and then mixed with a dilute acid. The acid dissolves all the carbonate-containing minerals not only in the binder, but also in the aggregate (such as oyster shells, coral sands, or other carbonate-based materials), as well as any other **acid-soluble** materials. The sand and fine-grained **acid-insoluble material** is left behind. There are several variations on the simple acid digestion test. One involves collecting the carbon dioxide gas given off as the carbonate is digested by the acid; based on the gas volume the carbonate content of the mortar can be accurately determined

(Jedrzejewska, 1960). Simple acid digestion methods are rapid, inexpensive, and easy to perform, but the information they provide about the original composition of a mortar is limited to the color and texture of the sand. The gas collection method provides more information about the binder than a simple acid digestion test.

Instrumental analysis methods that have been used to evaluate mortars include polarized light or thin-section microscopy, scanning electron microscopy, atomic absorption spectroscopy, X-ray diffraction, and differential thermal analysis. All instrumental methods require not only expensive, specialized equipment, but also highly-trained experienced analysts. However, instrumental methods can provide much more information about a mortar. Thin-section microscopy is probably the most commonly used instrumental method. Examination of thin slices of a mortar in transmitted light is often used to supplement acid digestion methods, particularly to look

for carbonate-based aggregate. For example, the new ASTM test method, ASTM C 1324-96 "Test Method for Examination and Analysis of Hardened Mortars" which was designed specifically for the analysis of modern lime-cement and masonry cement mortars, combines a complex series of wet chemical analyses with thin-section microscopy.

The drawback of most mortar analysis methods is that mortar samples of known composition have not been analyzed in order to evaluate the method. Historic mortars were not prepared to narrowly defined specifications from materials of uniform quality; they contain a wide array of locally derived materials combined at the discretion of the mason. While a particular method might be able to accurately determine the original proportions of a lime-cement-sand mortar prepared from modern materials, the usefulness of that method for evaluating historic mortars is questionable unless it has been tested against mortars prepared from materials more commonly used in the past.

Lorraine Schnabel.

Properties of Mortar

Mortars for repointing should be softer or more permeable than the masonry units and no harder or more impermeable than the historic mortar to prevent damage to the masonry units. It is a common error to assume that hardness or high strength is a measure of appropriateness, particularly for lime-based historic mortars. Stresses within a wall caused by expansion, contraction, moisture migration, or settlement must be accommodated in some manner; in a masonry wall, these stresses should be relieved by the mortar rather than by the masonry units. A mortar that is stronger in compressive strength than the masonry units will not "give," thus causing stresses to be relieved through the masonry units--resulting in permanent damage to the masonry, such as cracking and spalling, that cannot be repaired easily.

While stresses can also break the bond between the mortar and the masonry units, permitting water to penetrate the resulting hairline cracks, this is easier to correct in the joint through repointing than if the break occurs in the masonry units.

Permeability, or rate of vapor transmission, is also critical. High lime mortars are more permeable than denser cement mortars. Historically, mortar acted as a bedding material--not unlike an expansion joint--rather than a "glue" for the masonry units, and moisture was able to migrate through the mortar joints rather than the masonry units. When moisture evaporates from the masonry it deposits any soluble salts either on the surface as *efflorescence* or below the surface as *subflorescence*. While salts deposited on the surface of masonry units are usually relatively harmless, salt crystallization within a masonry unit creates pressure that can cause parts of the outer surface to spall off or delaminate. If the mortar does not permit moisture or moisture vapor to migrate out of the wall and evaporate, the result will be damage to the masonry units.



This early 19th century building is being repointed with lime mortar. Photo: Travis McDonald.

Components of Mortar

Sand. Sand is the largest component of mortar and the material that gives mortar its distinctive color, texture and cohesiveness. Sand must be free of impurities, such as salts or clay. The three key characteristics of sand are: particle shape, gradation and void ratios.

When viewed under a magnifying glass or low-power microscope, particles of sand generally have either rounded edges, such as found in beach and river sand, or sharp, angular edges, found in crushed or manufactured sand. For repointing mortar, rounded or natural sand is preferred for two reasons. It is usually similar to the sand in the historic mortar and provides a better visual match. It also has better working qualities or plasticity and can thus be forced into the joint more easily, forming a good contact with the remaining historic mortar and the surface of the adjacent masonry units. Although manufactured sand is frequently more readily available, it is usually possible to locate a supply of rounded sand.

The gradation of the sand (particle size distribution) plays a very important role in the durability and cohesive properties of a mortar. Mortar must have a certain percentage of large to small particle sizes in order to deliver the optimum performance. Acceptable guidelines on particle size distribution may be found in ASTM C 144 (American Society for Testing and Materials). However, in actuality, since neither historic nor modern sands are always in compliance with ASTM C 144, matching the same particle appearance and gradation usually requires sieving the sand.

A scoop of sand contains many small voids between the individual grains. A mortar that performs well fills all these small voids with binder (cement/lime combination or mix) in a balanced manner. Well-graded sand generally has a 30 per cent void ratio by volume. Thus, 30 per cent binder by volume generally should be used, unless the historic mortar had a different binder: aggregate ratio. This represents the 1:3 binder to sand ratios often seen in mortar specifications.

For repointing, sand generally should conform to ASTM C 144 to assure proper gradation and freedom from impurities; some variation may be necessary to match the original size and gradation. Sand color and texture also should match the original as closely as possible to provide the proper color match without other additives.

Lime. Mortar formulations prior to the late-19th century used lime as the primary binding material. Lime is derived from heating limestone at high temperatures which burns off the carbon dioxide, and turns the limestone into quicklime. There are three types of limestone—calcium, magnesium, and dolomitic—differentiated by the different levels of magnesium carbonate they contain which impart specific qualities to mortar. Historically, calcium lime was used for mortar rather than the dolomitic lime (calcium magnesium carbonate) most often used today. But it is also important to keep in mind the fact that the historic limes, and other components of mortar, varied a great deal because they were natural, as opposed to modern lime which is manufactured and, therefore, standardized. Because some of the kinds of lime, as well as other components of mortar, that were used historically are no longer readily available, even when a conscious effort is made to replicate a "historic" mix, this may not be achievable due to the differences between modern and historic materials.

Lime, itself, when mixed with water into a paste is very plastic and creamy. It will remain workable and soft indefinitely, if stored in a sealed container. Lime (calcium hydroxide) hardens by carbonation absorbing carbon dioxide primarily from the air, converting itself



Caulking was inappropriately used here in place of mortar on the top of the wall. As a result, it has not been durable. Photo: NPS files.

to calcium carbonate. Once a lime and sand mortar is mixed and placed in a wall, it begins the process of carbonation. If lime mortar is left to dry too rapidly, carbonation of the mortar will be reduced, resulting in poor adhesion and poor durability. In addition, lime mortar is slightly water soluble and thus is able to re-seal any hairline cracks that may develop during the life of the mortar. Lime mortar is soft, porous, and changes little in volume during temperature fluctuations thus making it a good choice for historic buildings. *Because of these qualities, high calcium lime mortar may be considered for many repointing projects, not just those involving historic buildings.*

For repointing, lime should conform to ASTM C 207, Type S, or Type SA, Hydrated Lime for Masonry Purposes. This machine-slaked lime is designed to assure high plasticity and water retention. The use of quicklime which must be slaked and soaked by hand may have advantages over hydrated lime in some restoration projects if time and money allow.

Lime putty. Lime putty is slaked lime that has a putty or paste-like consistency. It should conform to ASTM C 5. Mortar can be mixed using lime putty according to ASTM C 270 property or proportion specification.

Portland cement. More recent, 20th-century mortar has used portland cement as a primary binding material. A straight portland cement and sand mortar is extremely hard, resists the movement of water, shrinks upon setting, and undergoes relatively large thermal movements. When mixed with water, portland cement forms a harsh, stiff paste that is quite unworkable, becoming hard very quickly. (Unlike lime, portland cement will harden regardless of weather conditions and does not require wetting and drying cycles.) Some portland cement assists the workability and plasticity of the mortar without adversely affecting the finished project; it also provides early strength to the mortar and speeds setting. Thus, it may be appropriate to add some portland cement to an essentially lime-based mortar even when repointing relatively soft 18th or 19th century brick under some circumstances when a slightly harder mortar is required. The more portland cement that is added to a mortar formulation the harder it becomes--and the faster the initial set.

For repointing, portland cement should conform to ASTM C 150. White, non-staining portland cement may provide a better color match for some historic mortars than the more commonly available grey portland cement. But, it should not be assumed, however, that white portland cement is always appropriate for all historic buildings, since the original mortar may have been mixed with grey cement. The cement should not have more than 0.60 per cent alkali to help avoid efflorescence.

Masonry cement. Masonry cement is a preblended mortar mix commonly found at hardware and home repair stores. It is designed to produce mortars with a compressive strength of 750 psi or higher when mixed with sand and water at the job site. It may contain hydrated lime, but it always contains a large amount of portland cement, as well as ground limestone and other workability agents, including air-entraining agents. Because masonry cements are not required to contain hydrated lime, and generally do not contain lime, they produce high strength mortars that can damage historic masonry.

For this reason, they generally are not recommended for use on historic masonry buildings.

Lime mortar (pre-blended). Hydrated lime mortars, and pre-blended lime putty mortars with or without a matched sand are commercially available. Custom mortars are also available with color. In most instances, pre-blended lime mortars containing sand may not provide an exact match; however, if the project calls for total repointing, a pre-blended lime mortar may be worth considering as long as the mortar is compatible in strength with the masonry. If the project involves only selected, "spot" repointing, then it may be better to carry out a mortar analysis which can provide a custom pre-blended lime mortar with a matching sand. In either case, if a preblended lime mortar is to be used, it should contain Type S or SA hydrated lime conforming to ASTM C 207.

Water. Water should be potable—clean and free from acids, alkalis, or other dissolved organic materials.

Other Components

Historic components. In addition to the color of the sand, the texture of the mortar is of critical importance in duplicating historic mortar. Most mortars dating from the mid-19th century on—with some exceptions—have a fairly homogeneous texture and color. Some earlier mortars are not as uniformly textured and may contain lumps of partially burned lime or "dirty lime", shell (which often provided a source of lime, particularly in coastal areas), natural cements, pieces of clay, lampblack or other pigments, or even animal hair. The visual characteristics of these mortars can be duplicated through the use of similar materials in the repointing mortar.

Replicating such unique or individual mortars will require writing new specifications for each project. If possible, suggested sources for special materials should be included. For example, crushed oyster shells can be obtained in a variety of sizes from poultry supply dealers.

Pigments. Some historic mortars, particularly in the late 19th century, were tinted to match or contrast with the brick or stone. Red pigments, sometimes in the form of brick dust, as well as brown, and black pigments were commonly used. Modern pigments are available which can be added to the mortar at the job site, but they should not exceed 10 per cent by weight of the portland cement in the mix, and carbon black should be limited to 2 per cent. Only synthetic mineral oxides, which are alkali-proof and sun-fast, should be used to prevent bleaching and fading.

Modern components. Admixtures are used to create specific characteristics in mortar, and whether they should be used will depend upon the individual project. *Air entraining agents*, for example, help the mortar to resist freeze-thaw damage in northern climates. *Accelerators* are used to reduce mortar freezing prior to setting while *retarders* help to extend the mortar life in hot climates. Selection of admixtures should be made by the architect or architectural conservator as part of the specifications, not something routinely added by the masons.

Generally, modern chemical additives are unnecessary and may, in fact, have detrimental effects in historic masonry projects. The use of antifreeze compounds is not recommended. They are not very effective with high lime mortars and may introduce salts, which may cause efflorescence later. A better practice is to warm the sand and water, and to protect the completed work from freezing. No definitive study has determined whether air-entraining additives should be used to resist frost action and

enhance plasticity, but in areas of extreme exposure requiring high-strength mortars with lower permeability, air-entrainment of 10–16 percent may be desirable (see formula for "severe weather exposure" in **Mortar Type and Mix**). Bonding agents are not a substitute for proper joint preparation, and they should generally be avoided. If the joint is properly prepared, there will be a good bond between the new mortar and the adjacent surfaces. In addition, a bonding agent is difficult to remove if smeared on a masonry surface.

Mortar Type and Mix

Mortars for repointing projects, especially those involving historic buildings, typically are custom mixed in order to ensure the proper physical and visual qualities. These materials can be combined in varying proportions to create a mortar with the desired performance and durability. The actual specification of a particular mortar type should take into consideration all of the factors affecting the life of the building including: current site conditions, present condition of the masonry, function of the new mortar, degree of weather exposure, and skill of the mason. Thus, no two repointing projects are



Here, a hammer and chisel are being correctly used to prepare a joint for repointing. Photo: John P. Speweik.

exactly the same. Modern materials specified for use in repointing mortar should conform to specifications of the American Society for Testing and Materials (ASTM) or comparable federal specifications, and the resulting mortar should conform to ASTM C 270, Mortar for Unit Masonry.

Specifying the proportions for the repointing mortar for a specific job is not as difficult as it might seem. Five mortar types, each with a corresponding recommended mix, have been established by ASTM to distinguish high strength mortar from soft flexible mortars. The ASTM designated them in decreasing order of approximate general strength as Type M (2,500 psi), Type S (1,800 psi), Type N (750 psi), Type O (350 psi) and Type K (75 psi). (The letters identifying the types are from the words MASON WORK using every other letter.) Type K has the highest lime content of the mixes that contain portland cement, although it is seldom used today, except for some historic preservation projects. The designation "L" in the accompanying chart identifies a straight lime and sand mix. Specifying the appropriate ASTM

mortar by proportion of ingredients, will ensure the desired physical properties. Unless specified otherwise, measurements or proportions for mortar mixes are always given in the following order: cement-lime-sand. Thus, a Type K mix, for example, would be referred to as 1-3-10, or 1 part cement to 3 parts lime to 10 parts sand. Other requirements to create the desired visual qualities should be included in the specifications.

The strength of a mortar can vary. If mixed with higher amounts of portland cement, a harder mortar is obtained. The more lime that is added, the softer and more plastic the mortar becomes, increasing its workability. A mortar strong in compressive strength might be desirable for a hard stone (such as granite) pier holding up a bridge deck, whereas a softer, more permeable lime mortar would be preferable for a historic wall of soft brick. Masonry deterioration caused by salt deposition results when the mortar is less permeable than the masonry unit. A strong mortar is still more permeable than hard, dense stone. However, in a wall constructed of soft bricks where the masonry unit itself has a relatively high permeability or vapor transmission rate, a soft, high lime mortar is necessary to retain sufficient permeability.

Budgeting and Scheduling

Repointing is both expensive and time consuming due to the extent of handwork and special materials required. It is preferable to repoint only those areas that require work rather than an entire wall, as is often specified. But, if 25 to 50 per cent or more of a wall needs to be repointed, repointing the entire wall may be more cost effective than spot repointing. Total repointing may also be more sensible when access is difficult, requiring the erection of expensive scaffolding (unless the majority of the mortar is sound and unlikely to require replacement in the foreseeable future). Each project requires judgement based on a variety of factors. Recognizing this at the outset will help to prevent many jobs from becoming prohibitively expensive.

In scheduling, seasonal aspects need to be considered first. Generally speaking, wall temperatures between 40 and 95 degrees F (8 and 38 degrees C) will prevent freezing or excessive evaporation of the water in the mortar. Ideally, repointing should be done in shade, away from strong sunlight in order to slow the drying process, especially during hot weather. If necessary, shade can be provided for large-scale projects with appropriate modifications to scaffolding.

The relationship of repointing to other work proposed on the building must also be recognized. For example, if paint removal or cleaning is anticipated, and if the mortar joints are basically sound and need only selective repointing, it is generally better to postpone repointing until after completion of these activities. However, if the mortar has eroded badly, allowing moisture to penetrate deeply into the wall, repointing should be accomplished before cleaning. Related work, such as structural or roof repairs, should be scheduled so that they do not interfere with repointing and so that all work can take maximum advantage of erected scaffolding.

Building managers also must recognize the difficulties that a repointing project can create. The process is time consuming, and scaffolding may need to remain in place for an extended period of time. The joint preparation process can be quite noisy and can generate large quantities of dust which must be controlled, especially at air intakes to protect human health, and also where it might damage operating machinery. Entrances may be blocked from time to time making access difficult for both building tenants and visitors. Clearly, building managers will need to coordinate the repointing work with other events at the site.



A mechanical grinder improperly used to cut out the horizontal joint and incompatible repointing have seriously damaged the



When repairing this stone wall, the mason matched the raised profile of the original tuckpointing. Photo: NPS files.

Contractor Selection

The ideal way to select a contractor is to ask knowledgeable owners of recently repointed historic buildings for recommendations. Qualified contractors then can provide lists of other repointing projects for inspection. More commonly, however, the contractor for a repointing project is selected through a competitive bidding process over which the client or consultant has only limited control. In this situation it is

19th century brick.
Photo: NPS files.

important to ensure that the specifications stipulate that masons must have a minimum of five years' experience with repointing historic masonry buildings to be eligible to bid on the project.

Contracts are awarded to the lowest responsible bidder, and bidders who have performed poorly on other projects usually can be eliminated from consideration on this basis, even if they have the lowest prices.

The contract documents should call for unit prices as well as a base bid. Unit pricing forces the contractor to determine in advance what the cost addition or reduction will be for work which varies from the scope of the base bid. If, for example, the contractor has fifty linear feet less of stone repointing than indicated on the contract documents but thirty linear feet more of brick repointing, it will be easy to determine the final price for the work. Note that each type of work--brick repointing, stone repointing, or similar items--will have its own unit price. The unit price also should reflect quantities; one linear foot of pointing in five different spots will be more expensive than five contiguous linear feet.

Execution of the Work

Test Panels. These panels are prepared by the contractor using the same techniques that will be used on the remainder of the project. Several panel locations--preferably not on the front or other highly visible location of the building--may be necessary to include all types of masonry, joint styles, mortar colors, and other problems likely to be encountered on the job. If cleaning tests, for example, are also to be undertaken, they should be carried out in the same location. Usually a 3 foot by 3 foot area is sufficient for brickwork, while a somewhat larger area may be required for stonework. These panels establish an acceptable standard of work and serve as a benchmark for evaluating and accepting subsequent work on the building.

Joint Preparation. Old mortar should be removed to a minimum depth of 2 to 2-1/2 times the width of the joint to ensure an adequate bond and to prevent mortar "popouts." For most brick joints, this will require removal of the mortar to a depth of approximately 1/2 to 1 inch; for stone masonry with wide joints, mortar may need to be removed to a depth of several inches. Any loose or disintegrated mortar beyond this minimum depth also should be removed.

Although some damage may be inevitable, careful joint preparation can help limit damage to masonry units. The traditional manner of removing old mortar is through the use of hand chisels and mash hammers. Though labor-intensive, in most instances this method poses the least threat for damage to historic masonry units and produces the best final product.

The most common method of removing mortar, however, is through the use of power saws or grinders. The use of power tools by unskilled masons can be disastrous for historic masonry, particularly soft brick. Using power saws on walls with thin joints, such as most brick walls, almost always will result in damage to the masonry units by breaking the edges and by overcutting on the head, or vertical joints.

However, small pneumatically-powered chisels generally can be used safely and effectively to remove mortar on historic buildings as long as the masons maintain



Unskilled repointing has negatively impacted the character of this late-19th century building. Photo: NPS files.

appropriate control over the equipment. Under certain circumstances, thin diamond-bladed grinders may be used to cut out *horizontal* joints only on hard portland cement mortar common to most early-20th century masonry buildings. Usually, automatic tools most successfully remove old mortar without damaging the masonry units when they are used in combination with hand tools in preparation for repointing. Where horizontal joints are uniform and fairly wide, it may be possible to use a power masonry saw to assist the removal of mortar, such as by cutting along the middle of the joint; final mortar removal from the sides of the joints still should be done with a hand chisel and hammer. Caulking cutters with diamond blades can sometimes be used successfully to cut out joints without damaging the masonry. Caulking cutters are slow; they do not rotate, but vibrate at very high speeds, thus minimizing the possibility of damage to masonry units. Although mechanical tools may be safely used in limited circumstances to cut out horizontal joints in preparation for repointing, they should never be used on vertical joints because of the danger of slipping and cutting into the brick above or below the vertical joint. Using power tools to remove mortar without damaging the surrounding masonry units also necessitates highly skilled masons experienced in working on historic masonry buildings. Contractors should demonstrate proficiency with power tools before their use is approved.

Using any of these power tools may also be more acceptable on hard stone, such as quartzite or granite, than on terra cotta with its glass-like glaze, or on soft brick or stone. The test panel should determine the acceptability of power tools. If power tools are to be permitted, the contractor should establish a quality control program to account for worker fatigue and similar variables.

Mortar should be removed cleanly from the masonry units, leaving square corners at the back of the cut. Before filling, the joints should be rinsed with a jet of water to remove all loose particles and dust. At the time of filling, the joints should be damp, but with no standing water present. For masonry walls—limestone, sandstone and common brick—that are extremely absorbent, it is recommended that a continual mist of water be applied for a few hours before repointing begins.

Mortar Preparation. Mortar components should be measured and mixed carefully to assure the uniformity of visual and physical characteristics. Dry ingredients are measured by volume and thoroughly mixed before the addition of any water. Sand must be added in a damp, loose condition to avoid over sanding. Repointing mortar is typically pre-hydrated by adding water so it will just hold together, thus allowing it to stand for a period of time before the final water is added. Half the water should be added, followed by mixing for approximately 5 minutes. The remaining water should then be added in small portions until a mortar of the desired consistency is reached. The total volume of water necessary may vary from batch to batch, depending on weather conditions. It is important to keep the water to a minimum for two reasons: first, a drier mortar is cleaner to work with, and it can be compacted tightly into the joints; second, with no excess water to evaporate, the mortar cures without shrinkage cracks. Mortar should be used within approximately 30 minutes of final mixing, and "retempering," or adding more water, should not be permitted.

Using Lime Putty to Make Mortar. Mortar made with lime putty and sand, sometimes referred to as roughage or course stuff, should be measured by volume, and may require slightly different proportions from those used with hydrated lime. No additional water is usually needed to achieve a workable consistency because enough water is already contained in the putty. Sand is proportioned first, followed by the lime putty, then mixed for five minutes or until all the sand is thoroughly coated with the lime putty. But mixing, in the familiar sense of turning over with a hoe, sometimes may not be sufficient if the best possible performance is to be obtained from a lime putty mortar.

Although the old practice of chopping, beating and ramming the mortar has largely been forgotten, recent field work has confirmed that lime putty and sand rammed and beaten with a wooden mallet or ax handle, interspersed by chopping with a hoe, can significantly improve workability and performance. The intensity of this action increases the overall lime/sand contact and removes any surplus water by compacting the other ingredients. It may also be advantageous for larger projects to use a mortar pan mill for mixing. Mortar pan mills which have a long tradition in Europe produce a superior lime putty mortar not attainable with today's modern paddle and drum type mixers.

For larger repointing projects the lime putty and sand can be mixed together ahead of time and stored indefinitely, on or off site, which eliminates the need for piles of sand on the job site. This mixture, which resembles damp brown sugar, must be protected from the air in sealed containers with a wet piece of burlap over the top or sealed in a large plastic bag to prevent evaporation and premature carbonation. The lime putty and sand mixture can be recombined into a workable plastic state months later with no additional water.

If portland cement is specified in a lime putty and sand mortar—Type O (1:2:9) or Type K (1:3:11)—the portland cement should first be mixed into a slurry paste before adding it to the lime putty and sand. Not only will this ensure that the portland cement is evenly distributed throughout the mixture, but if dry portland cement is added to wet ingredients it tends to "ball up," jeopardizing dispersion. (Usually water must be added to the lime putty and sand anyway once the portland cement is introduced.) Any color pigments should be added at this stage and mixed for a full five minutes. The mortar should be used within 30 minutes to 1½ hours and it should not be retempered. Once portland cement has been added the mortar can no longer be stored.

Filling the Joint. Where existing mortar has been removed to a depth of greater than 1 inch, these deeper areas should be filled first, compacting the new mortar in several layers. The back of the entire joint should be filled successively by applying approximately 1/4 inch of mortar, packing it well into the back corners. This application may extend along the wall for several feet. As soon as the mortar has reached thumb-print hardness, another 1/4 inch layer of mortar—approximately the same thickness—may be applied. Several layers will be needed to fill the joint flush with the outer surface of the masonry. It is important to allow each layer time to harden before the next layer is applied; most of the mortar shrinkage occurs during the hardening process and layering thus minimizes overall shrinkage.

When the final layer of mortar is thumb-print hard, the joint should be tooled to match the historic joint. Proper timing of the tooling is important for uniform color and appearance. If tooled when too soft, the color will be lighter than expected, and hairline cracks may occur; if tooled when too hard, there may be dark streaks called "tool burning," and good closure of the mortar against the masonry units will not be achieved.

If the old bricks or stones have worn, rounded edges, it is best to recess the final mortar slightly from the face of the masonry. This treatment will help avoid a joint which is visually wider than the actual joint; it also will avoid creation of a large, thin featheredge which is easily damaged, thus admitting water. After tooling, excess mortar can be removed from the edge of the joint by brushing with a natural bristle or nylon brush. Metal bristle brushes should never be used on historic masonry.

Curing Conditions. The preliminary hardening of high-lime content mortars—those mortars that contain more lime by volume than portland cement, i.e., Type O (1:2:9), Type K (1:3:11), and straight lime/sand, Type "L" (0:1:3)—takes place fairly rapidly as water in the mix is lost to the porous surface of the masonry and through evaporation. A

high lime mortar (especially Type "L") left to dry out too rapidly can result in chalking, poor adhesion, and poor durability. Periodic wetting of the repointed area after the mortar joints are thumb-print hard and have been finish tooled may significantly accelerate the carbonation process. When feasible, misting using a hand sprayer with a fine nozzle can be simple to do for a day or two after repointing. Local conditions will dictate the frequency of wetting, but initially it may be as often as every hour and gradually reduced to every three or four hours. Walls should be covered with burlap for the first three days after repointing. (Plastic may be used, but it should be tented out and not placed directly against the wall.) This helps keep the walls damp and protects them from direct sunlight. Once carbonation of the lime has begun, it will continue for many years and the lime will gain strength as it reverts back to calcium carbonate within the wall.

Aging the Mortar. Even with the best efforts at matching the existing mortar color, texture, and materials, there will usually be a visible difference between the old and new work, partly because the new mortar has been matched to the unweathered portions of the historic mortar. Another reason for a slight mismatch may be that the sand is more exposed in old mortar due to the slight erosion of the lime or cement. Although spot repointing is generally preferable and some color difference should be acceptable, if the difference between old and new mortar is too extreme, it may be advisable in some instances to repoint an entire area of a wall, or an entire feature such as a bay, to minimize the difference between the old and the new mortar. If the mortars have been properly matched, usually the best way to deal with surface color differences is to let the mortars age naturally. Other treatments to overcome these differences, including cleaning the non-repointed areas or staining the new mortar, should be carefully tested prior to implementation.



This 18th century pediment and surrounding wall exhibit distinctively different mortar joints. Photo: NPS files.

Staining the new mortar to achieve a better color match is generally not recommended, but it may be appropriate in some instances. Although staining may provide an initial match, the old and new mortars may weather at different rates, leading to visual differences after a few seasons. In addition, the mixtures used to stain the mortar may be harmful to the masonry; for example, they may introduce salts into the masonry which can lead to efflorescence.

Cleaning the Repointed Masonry. If repointing work is carefully executed, there will be little need for cleaning other than to remove the small amount of mortar from the edge of the joint following tooling. This can be done with a stiff natural bristle or nylon brush after the mortar has dried, but before it is initially set (1-2 hours). Mortar that has hardened can usually be removed with a wooden paddle or, if necessary, a chisel.

Further cleaning is best accomplished with plain water and natural bristle or nylon brushes. If chemicals must be used, they should be selected with extreme caution. Improper cleaning can lead to deterioration of the masonry units, deterioration of the mortar, mortar smear, and efflorescence. New mortar joints are especially susceptible to damage because they do not become fully cured for several months. Chemical cleaners, particularly acids, should never be used on dry masonry. The masonry should always be completely soaked once with water before chemicals are applied. After cleaning, the walls should be flushed again with plain water to remove all traces of the chemicals.

Several precautions should be taken if a freshly repointed masonry wall is to be cleaned. First, the mortar should be fully hardened before cleaning. Thirty days is usually sufficient, depending on weather and exposure; as mentioned previously, the mortar will continue to cure even after it has hardened. Test panels should be prepared to evaluate the effects of different cleaning methods. Generally, on newly repointed masonry walls, only very low pressure (100 psi) water washing supplemented by stiff natural bristle or nylon brushes should be used, except on glazed or polished surfaces, where only soft cloths should be used.**

New construction "bloom" or efflorescence occasionally appears within the first few months of repointing and usually disappears through the normal process of weathering. If the efflorescence is not removed by natural processes, the safest way to remove it is by dry brushing with stiff natural or nylon bristle brushes followed by wet brushing. Hydrochloric (muriatic) acid, is generally ineffective, and it should not be used to remove efflorescence. It may liberate additional salts, which, in turn, can lead to more efflorescence.

Surface Grouting is sometimes suggested as an alternative to repointing brick buildings, in particular. This process involves the application of a thin coat of cement-based grout to the mortar joints and the mortar/brick interface. To be effective, the grout must extend slightly onto the face of the masonry units, thus widening the joint visually. The change in the joint appearance can alter the historic character of the structure to an unacceptable degree. In addition, although masking of the bricks is intended to keep the grout off the remainder of the face of the bricks, some level of residue, called "veiling," will inevitably remain. Surface grouting cannot substitute for the more extensive work of repointing, and it is not a recommended treatment for historic masonry.

***Additional information on masonry cleaning is presented in Preservation Briefs 1: Assessing Cleaning and Water-Repellent Treatments for Historic Masonry Buildings, Robert C. Mack, FAIA, and Anne Grimmer, Washington, D.C.: Technical Preservation Services, National Park Service, U.S. Department of the Interior, 2000; and Keeping it Clean: Removing Exterior Dirt, Paint, Stains & Graffiti from Historic Masonry Buildings, Anne E. Grimmer, Washington, D.C.: Technical Preservation Services, National Park Service, U.S. Department of the Interior, 1988.*

Visually Examining the Mortar and the Masonry Units

A simple *in situ* comparison will help determine the hardness and condition of the mortar and the masonry units. Begin by scraping the mortar with a screwdriver, and gradually tapping harder with a cold chisel and mason's hammer. Masonry units can be tested in the same way beginning, even more gently, by scraping with a fingernail. This relative analysis which is derived from the 10-point hardness scale used to describe minerals, provides a good starting point for selection of an appropriate mortar. It is described more fully in "The Russack System for Brick & Mortar Description" referenced in **Selected Reading** at the end of this Brief.

Mortar samples should be chosen carefully, and picked from a variety of locations on the building to find unweathered mortar, if possible. Portions of the building may have been repointed in the past while other areas may be subject to conditions causing unusual deterioration. There may be several colors of mortar dating from different construction periods or sand used from different sources during the initial construction. Any of these

situations can give false readings to the visual or physical characteristics required for the new mortar. Variations should be noted which may require developing more than one mix.

1) Remove with a chisel and hammer three or four unweathered samples of the mortar to be matched from several locations on the building. (Set the largest sample aside--this will be used later for comparison with the repointing mortar). Removing a full representation of samples will allow selection of a "mean" or average mortar sample.

2) Mash the remaining samples with a wooden mallet, or hammer if necessary, until they are separated into their constituent parts. There should be a good handful of the material.

3) Examine the powdered portion--the lime and/or cement matrix of the mortar. Most particularly, note the color. There is a tendency to think of historic mortars as having white binders, but grey portland cement was available by the last quarter of the 19th century, and traditional limes were also sometimes grey. Thus, in some instances, the natural color of the historic binder may be grey, rather than white. The mortar may also have been tinted to create a colored mortar, and this color should be identified at this point.

4) Carefully **blow** away the powdery material (the lime and/or cement matrix which bound the mortar together).

5) With a low power (10 power) magnifying glass, examine the remaining sand and other materials such as lumps of lime or shell.

6) Note and record the wide range of color as well as the varying sizes of the individual grains of sand, impurities, or other materials.

Other Factors to Consider

Color. Regardless of the color of the binder or colored additives, the sand is the primary material that gives mortar its color. A surprising variety of colors of sand may be found in a single sample of historic mortar, and the different sizes of the grains of sand or other materials, such as incompletely ground lime or cement, play an important role in the texture of the repointing mortar. Therefore, when specifying sand for repointing mortar, it may be necessary to obtain sand from several sources and to combine or screen them in order to approximate the range of sand colors and grain sizes in the historic mortar sample.

Pointing Style. Close examination of the historic masonry wall and the techniques used in the original construction will assist in maintaining the visual qualities of the building. Pointing styles and the methods of producing them should be examined. It is important to look at both the horizontal and the vertical joints to determine the order in which they were tooled and whether they were the same style. Some late-19th and early-20th century buildings, for example, have horizontal joints that were raked back while the vertical joints were finished flush and stained to match the bricks, thus creating the illusion of horizontal bands. Pointing styles may also differ from one facade to another; front walls often received greater attention to mortar detailing than side and rear walls. **Tuckpointing** is not true repointing but the application of a raised joint or lime putty joint on top of flush mortar joints. **Penciling** is a purely decorative, painted surface treatment over a mortar joint, often in a contrasting color.

Masonry Units. The masonry units should also be examined so that any replacement units will match the historic masonry. Within a wall there may be a wide range of colors, textures, and sizes, particularly with hand-made brick or rough-cut, locally-quarried stone. Replacement units should blend in with the full range of masonry units rather than a single brick or stone.

Matching Color and Texture of the Repointing Mortar

New mortar should match the unweathered interior portions of the historic mortar. The simplest way to check the match is to make a small sample of the proposed mix and allow it to cure at a temperature of approximately 70 degrees F for about a week, or it can be baked in an oven to speed up the curing; this sample is then broken open and the surface is compared with the surface of the largest "saved" sample of historic mortar.

If a proper color match cannot be achieved through the use of natural sand or colored aggregates like crushed marble or brick dust, it may be necessary to use a modern mortar pigment.

During the early stages of the project, it should be determined how closely the new mortar should match the historic mortar. Will "quite close" be sufficient, or is "exactly" expected? The specifications should state this clearly so that the contractor has a reasonable idea how much time and expense will be required to develop an acceptable match.

The same judgment will be necessary in matching replacement terra cotta, stone or brick. If there is a known source for replacements, this should be included in the specifications. If a source cannot be determined prior to the bidding process, the specifications should include an estimated price for the replacement materials with the final price based on the actual cost to the contractor.

Mortar Types (Measured by volume)			
Designation	Cement	Hydrated Lime or Lime Putty	Sand
M	1	1/4	3 - 3 3/4
S	1	1/2	4 - 4 1/2
N	1	1	5 - 6
O	1	2	8 - 9
K	1	3	10 - 12
"L"	0	1	2 1/4 - 3

Suggested Mortar Types for Different Exposures			
Masonry Material	Exposure		
	Sheltered	Moderate	Severe
Very durable: granite, hard-cored brick, etc.	O	N	S
Moderately durable: limestone, durable stone, molded brick	K	O	N
Minimally durable:			

Summary

For the Owner/Administrator. The owner or administrator of a historic building should remember that repointing is likely to be a lengthy and expensive process. First, there must be adequate time for evaluation of the building and investigation into the cause of problems. Then, there will be time needed for preparation of the contract documents. The work itself is precise, time-consuming and noisy, and scaffolding may cover the face of the building for some time. Therefore, the owner must carefully plan the work to avoid problems. Schedules for both repointing and other activities will thus require careful coordination to avoid unanticipated conflicts. The owner must avoid the tendency to rush the work or cut corners if the historic building is to retain its visual integrity and the job is to be durable.

For the Architect/Consultant. Because the primary role of the consultant is to ensure the life of the building, a knowledge of historic construction techniques and the special problems found in older buildings is essential. The consultant must assist the owner in planning for logistical problems relating to research and construction. It is the consultant's responsibility to determine the cause of the mortar deterioration and ensure that it is corrected before the masonry is repointed. The consultant must also be prepared to spend more time in project inspections than is customary in modern construction.

For the Masons. Successful repointing depends on the masons themselves. Experienced masons understand the special requirements for work on historic buildings and the added time and expense they require. The entire masonry crew must be willing and able to perform the work in conformance with the specifications, even when the specifications may not be in conformance with standard practice. At the same time, the masons should not hesitate to question the specifications if it appears that the work specified would damage the building.

Conclusion

A good repointing job is meant to last, at least 30 years, and preferably 50- 100 years. Shortcuts and poor craftsmanship result not only in diminishing the historic character of a building, but also in a job that looks bad, and will require future repointing sooner than if the work had been done correctly. The mortar joint in a historic masonry building has often been called a wall's "first line of defense." Good repointing practices guarantee the long life of the mortar joint, the wall, and the historic structure. Although careful maintenance will help preserve the freshly repointed mortar joints, it is important to remember that mortar joints are intended to be sacrificial and will probably require repointing some time in the future. Nevertheless, if the historic mortar joints proved durable for many years, then careful repointing should have an equally long life, ultimately contributing to the preservation of the entire building.

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Useful Addresses

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Home page logo: Soft mortar for repointing. Photo: John P. Speweik.

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SECTION 04905 - MASONRY RESTORATION

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Replacement of damaged and missing brick and stone.
 - 2. Patching deteriorated and damaged stone.
 - 3. Repointing mortar joints.
- B. Related Sections:
 - 1. Division 1: Administrative, procedural, and temporary work requirements.
 - 2. Section 04069 - Restoration Mortar.
 - 3. Section 04930 Unit Masonry Restoration Cleaning

1.2 REFERENCES

- A. American Society for Testing and Materials (ASTM)
 - 1. A 480/A 480M - Flat-Rolled Stainless and Heat-Resisting Steel Plate, Sheet, and Strip.
 - 2. A 666 - Austenitic Stainless Steel Sheet, Strip, Plate, and Flat Bar.
 - 3. C 67 - Method of Sampling and Testing Brick and Structural Clay Tile.
 - 4. C 170 - Compressive Strength of Natural Building Stone.
- B. International Masonry Industry All-Weather Council (IMIAC) - Recommended Practices and Guide Specifications for Cold Weather Masonry Construction.

1.3 DEFINITIONS

- A. Defective Mortar Joints: Joints in which mortar is missing, loose, spalled, eroded, powdered, broken, hollow, unsound, soft, or weathered more than 3/16 inch {5 mm} from original plane. Sound joints containing fine hairline cracks are excluded.

1.4 SUBMITTALS

- A. Samples:
 - 1. Masonry samples and mortar to be discussed on site with owner and architect prior to ordering material and installation.
- B. Qualification Statement: Installer qualifications, including previous projects.

1.5 QUALITY ASSURANCE

- A. Installer Qualifications:
 - 1. Minimum 3 years experience in work of this Section.
 - 2. Successful completion of at least 3 projects of similar scope and complexity within past 5 years.
- B. Mockups:
 - 1. Restore 10 square feet of existing brick. Show:
 - a. Masonry reconstruction procedures.
 - b. Masonry patching techniques.
 - c. Routing and repointing procedures.
 - d. Mortar color and texture.
 - e. Joint tooling sequence and profile.
 - f. Overall workmanship and procedures.

2. Locate where directed.

1.6 PROJECT CONDITIONS

- A. Protection of Work:
 1. Cover top of wall with strong waterproof membrane at end of each day or shutdown. Cover partially completed walls when work is not in progress.
 2. Extend cover minimum of {600 mm} 24 inches down both sides; hold securely in place.
 3. Prevent staining and damage to exposed masonry.
 4. Protect sills, ledges, and projections from mortar droppings; remove droppings immediately.
- B. Environmental Requirements:
 1. Hot weather requirements: If ambient temperature is over 95 degrees F {35 degrees C} or relative humidity is less than 50 percent, protect from direct sun and wind exposure for minimum 48 hours after installation.
 2. Cold weather requirements:
 - a. In accordance with IMIAC requirements.
 - b. Do not use frozen materials or build upon frozen work.

1.7 SEQUENCING

- A. Restore and clean masonry in following sequence:
 1. Clean masonry under provisions of Section 04930.
 2. Replace damaged and missing masonry.
 3. Rout and repoint mortar joints.
- B. Schedule the work to accomplish this requirement.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Acceptable Manufacturers - Patching Compound:
 1. Cathedral Stone Products.
 2. Edison Coatings.
 3. U.S. Heritage Group, Inc.

2.2 MATERIALS

- A. Brick and Stone:
 4. Reuse existing materials salvaged during demolition operations.
 5. If salvaged materials are of insufficient quantity or are unsuitable for reuse, provide new materials, OR materials salvaged from an off-site source to match existing in compressive strength, absorption, initial rate of absorption, color, size, and surface texture.
- B. Mortar: Specified in Section 04069.

2.3 ACCESSORIES

- A. Anchors: Stainless steel, ASTM A A480/A 480M or A 666, Type 304 or 316.
- B. Patching Compound: Premixed cementitious mortar mix, color to match [existing] [original] stone; Jahn Restoration Mortar by Cathedral Stone Products, Inc.
- B. Epoxy: Multiple component, 100 percent solids, produced specifically for setting anchors in masonry;
- C. Bonding Agent: Two component modified epoxy resin

PART 3 - EXECUTION

3.1 PREPARATION

- A. Prior to beginning work examine existing mortar joints to determine procedures required to match new mortar to existing, including:
 - 6. Order in which horizontal and vertical joints were tooled.
 - 7. Style of tooling including depth and profile.

3.2 REPLACEMENT OF DAMAGED AND MISSING MASONRY

- A. Remove damaged and deteriorated masonry without damage to adjacent masonry.
- B. Install new or salvaged masonry units where existing units are missing or were removed.
- C. Establish lines, levels, and courses to match existing. Fit new masonry to bond and coursing of existing masonry.
- D. Lay masonry plumb and true to line.
- E. Do not shift masonry after mortar has achieved initial set. If adjustments must be made after initial set, remove mortar and replace with new.
- F. Lay solid masonry units in full mortar bed, with full head joints.
- G. Lay hollow masonry units with face shell bedding on head and bed joints.
- H. Do not butter corners or excessively furrow joints.
- I. Cut masonry with straight, true cuts and clean, unchipped edges. Prevent oversized or undersized joints. Discard damaged units.
- J. Do not expose cut cells in finished work.
- K. Where fresh masonry joins existing or partially set masonry, remove loose masonry and mortar; clean and lightly wet exposed surface of set masonry.
- L. Do not permit mortar to accumulate in cavities.
- M. Rake out joints to 1/2 inch depth.

3.3 PATCHING STONE

- A. Large Spalled Areas and Severely Deteriorated Surfaces:
 - 1. Resurface deteriorated stone with new stone to match existing.
 - 2. Remove deteriorated stone to point at which sound material is reached.
 - 3. Drill holes for dowels at interface of new and existing stone.
 - 4. Anchor new stone to existing with anchors set in epoxy.
 - 5. Finish new stone flush with existing.
- B. Small Spalled Areas, Minor Cracks and Holes, and Lightly Deteriorated Surfaces:
 - 1. Patch stone with patching compound to match existing.
 - 2. Remove deteriorated stone until sound material is reached.
 - 3. Score or groove contact surfaces of stone to form mechanical bond with patching compound.
 - 4. Lightly wet masonry. Apply chemical bonding agent in accordance with manufacturer's instructions.

5. Mix and apply patching compound in accordance with manufacturer's instructions. Build up in maximum 1/2 inch {13 mm} thick layers.
6. Allow each layer to cure minimum 12 hours before proceeding. Lightly wet set material and existing masonry before applying next layer.
7. Finish patches to match color and texture of existing.
8. Keep patches moist until fully cured.

3.4 ROUTING AND REPOINTING MORTAR JOINTS

- A. Rout out defective mortar joints.
- B. Prepare dynamic joints and cracks to receive sealer.
- C. Repoint static joints with pointing mortar to match existing.
- D. Remove existing mortar to depth equal to 2-1/2 times joint width, but not less than 1/2 inch {13 mm} or depth at which sound mortar is reached.
- E. Remove mortar using hand tools only.
- F. Remove mortar cleanly, without damaging masonry. Cut back of joints square.
- G. Remove loose particles with compressed air.
- H. Lightly wet masonry just prior to repointing.
- I. Fill areas where mortar has been removed to greatest depth first.
- J. Build up mortar in several 1/4 inch {6 mm} compacted layers until outer face of masonry is reached.
- K. Allow each layer to reach thumbprint hardness prior to applying next layer.
- L. If existing masonry has worn, rounded edges, recess mortar slightly from face of masonry.
- M. When final mortar layer has reached thumbprint hardness, tool to match sequence and profile of existing. Avoid light streaks, hairline cracks, tool burning, open joints, and other defects caused by tooling when mortar is excessively wet or dry.
- N. Remove excess mortar from edge of joint by brushing with stiff bristle brush; wire brushes not permitted.
- O. If necessary to more closely match existing mortar color and texture, artificially age mortar using one of following methods:
 1. Lightly brush with stiff natural brush after tooling.
 2. Apply fine mortar spray with low pressure water after tooling.
 3. Staining is permitted.

END OF SECTION 04905

SECTION 06100 - ROUGH CARPENTRY

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. This Section includes the following:
 - 1. Wood blocking and nailers.
- B. Related Sections include the following:
 - 1. Section 02361 "Termite Control" for site application of borate treatment to wood framing.

1.3 DEFINITIONS

- A. Dimension Lumber: Lumber of 2 inches nominal (38 mm actual) or greater but less than 5 inches nominal (114 mm actual) in least dimension.
- B. Lumber grading agencies, and the abbreviations used to reference them, include the following:
 - 1. SPIB: The Southern Pine Inspection Bureau.

1.4 DELIVERY, STORAGE, AND HANDLING

- A. Stack lumber flat with spacers between each bundle to provide air circulation. Provide for air circulation around stacks and under coverings.

PART 2 - PRODUCTS

2.1 WOOD PRODUCTS, GENERAL

- A. Lumber: DOC PS 20 and applicable rules of grading agencies indicated. If no grading agency is indicated, provide lumber that complies with the applicable rules of any rules-writing agency certified by the ALSC Board of Review. Provide lumber graded by an agency certified by the ALSC Board of Review to inspect and grade lumber under the rules indicated.
 - 1. Factory mark each piece of lumber with grade stamp of grading agency.
 - 2. For exposed lumber indicated to receive a stained or natural finish.
 - 3. Where nominal sizes are indicated, provide actual sizes required by DOC PS 20 for moisture content specified. Where actual sizes are indicated, they are minimum dressed sizes for dry lumber.
 - 4. Provide dressed lumber, S4S, unless otherwise indicated.

2.2 WOOD-PRESERVATIVE-TREATED LUMBER

- A. Preservative Treatment by Pressure Process: AWPAC2.
 - 1. Preservative Chemicals: Acceptable to authorities having jurisdiction and containing no arsenic or chromium.
- B. Kiln-dry lumber after treatment to a maximum moisture content of 19 percent. Do not use material that is warped or does not comply with requirements for untreated material.
- C. Mark lumber with treatment quality mark of an inspection agency approved by the ALSC Board of Review.
- D. Application: Treat all rough carpentry, unless otherwise indicated.

2.3 MISCELLANEOUS LUMBER

- A. General: Provide miscellaneous lumber indicated and lumber for support or attachment of other construction, including the following:
 - 1. Blocking.
 - 2. Nailers.
 - 3. Cants.
- B. For items of dimension lumber size, provide Construction or No. 2 Standard, Stud, or No. 3 grade lumber with 15 percent maximum moisture content and any of the following species:
 - 1. Mixed southern pine; SPIB.
- C. For blocking not used for attachment of other construction, Utility, Stud, or No. 3 grade lumber of any species may be used provided that it is cut and selected to eliminate defects that will interfere with its attachment and purpose.
- D. For blocking and nailers used for attachment of other construction, select and cut lumber to eliminate knots and other defects that will interfere with attachment of other work.

2.4 FASTENERS

- A. General: Provide fasteners of size and type indicated that comply with requirements specified in this Article for material and manufacture.
 - 1. Where rough carpentry (painted or unpainted) is exposed to weather, in ground contact, pressure-preservative treated, provide fasteners of Type 304 stainless steel.
- B. Nails, Brads, and Staples: ASTM F 1667.
- C. Power-Driven Fasteners: NES NER-272.
- D. Wood Screws: ASME B18.6.1.

PART 3 - EXECUTION

3.1 INSTALLATION, GENERAL

- A. Set rough carpentry to required levels and lines, with members plumb, true to line, cut, and fitted. Fit rough carpentry to other construction; scribe and cope as needed for accurate fit. Locate nailers, blocking, and similar supports to comply with requirements for attaching other construction.
- B. Framing Standard: Comply with AF&PA's "Details for Conventional Wood Frame Construction," unless otherwise indicated.
- C. Do not splice structural members between supports, unless otherwise indicated.
- D. Provide blocking and framing as indicated and as required to support facing materials, fixtures, specialty items, and trim.
 - 1. Fire block concealed spaces behind combustible cornices and exterior trim at not more than 20 feet (6 m) o.c.
- E. Sort and select lumber so that natural characteristics will not interfere with installation or with fastening other materials to lumber. Do not use materials with defects that interfere with function of member or pieces that are too small to use with minimum number of joints or optimum joint arrangement.
- F. Comply with AWP A M4 for applying field treatment to cut surfaces of preservative-treated lumber.
 - 1. Use inorganic boron for items that are continuously protected from liquid water.
 - 2. Use copper naphthenate for items not continuously protected from liquid water.
- G. Securely attach rough carpentry work to substrate by anchoring and fastening as indicated, complying with the following:
 - 1. NES NER-272 for power-driven fasteners.
 - 2. Table 2304.9.1, "Fastening Schedule," in ICC's International Building Code.
- H. Use common wire nails, unless otherwise indicated. Select fasteners of size that will not fully penetrate members where opposite side will be exposed to view or will receive finish materials. Make tight connections between members. Install fasteners without splitting wood; do not countersink nail heads, unless otherwise indicated.

3.2 WOOD BLOCKING, AND NAILER INSTALLATION

- A. Install where indicated and where required for attaching other work. Form to shapes indicated and cut as required for true line and level of attached work. Coordinate locations with other work involved.
- B. Attach items to substrates to support applied loading. Recess bolts and nuts flush with surfaces, unless otherwise indicated.

3.3 PROTECTION

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

- B. Protect rough carpentry from weather. If, despite protection, rough carpentry becomes wet, apply EPA-registered borate treatment. Apply borate solution by spraying to comply with EPA-registered label.

END OF SECTION 061000

SECTION 06915 - FINISH CARPENTRY RESTORATION

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Consolidation of existing interior & exterior finish carpentry components.
 - 2. Epoxy patching of existing interior & exterior carpentry components.
 - 3. Replacement of damaged and missing interior & exterior finish carpentry components.
- B. Related Sections:
 - 1. Division 1: Administrative, procedural, and temporary work requirements.

1.2 REFERENCES

- A. American Lumber Standards Committee (ALSC) - Grading Rules.
- B. Architectural Woodwork Institute (AWI) - Quality Standards.
- C. National Institute of Standards and Technology (NIST) PS 20 - American Softwood Lumber Standard.
- D. Canadian National Master Specification; available through Construction Specifications Canada, Ottawa, Ontario.
- E. Section 06701 - Repair of Wood in Historic Structures: Splicing.
- F. Epoxies for Wood Repairs in Historic Buildings; by Morgan W. Phillips and Dr. Judith E. Selwyn, U.S. Department of the Interior, National Park Service, Cultural Resources, Washington, DC.
- G. Preservation Brief No. 9 - The Repair of Historic Wooden Windows; U.S. Department of the Interior, National Park Service, Cultural Resources, Washington, DC.

1.3 SUBMITTALS

- A. Qualification Statement: Installer qualifications, including previous projects.

1.4 QUALITY ASSURANCE

- A. Installer Qualifications:
 - 1. Minimum 5 years experience in work of this Section.
 - 2. Successful completion of at least 3 projects of similar scope and complexity within past 5 years.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Acceptable Manufacturers – Consolidant and Patching Compound:
 - 1. Abatron, Inc. or approved equal
- B. Substitutions: Under provisions of Division 1.

2.2 MATERIALS

- A. Lumber: Provide new materials to match existing original.
 - 1. Maximum moisture content: 12 percent on 90 percent of pieces; 15 percent on remaining pieces.

2.3 ACCESSORIES

- A. Consolidant: Low viscosity penetrating consolidant, 8 hour minimum cure time; LiquidWood by Abatron, Inc.
- B. Patching Compound: Epoxy based, multiple component; WoodEpoxy by Abatron, Inc.
- C. Fasteners: Stainless steel screws and nails - Type and size as required by conditions of use.

2.4 FABRICATION

- A. Quality: AWI Custom Quality Grade.
- B. Fabricate new wood components with profiles and dimensions to match original using salvaged materials as a template where possible.

PART 3 - EXECUTION

3.1 PREPARATION

- A. Prior to installation, condition wood to average humidity that will prevail after installation.
- B. Back prime exterior wood & wood in contact with masonry or cementitious materials prior to installation.

3.2 CONSOLIDATION OF EXISTING WOOD

- A. Apply consolidant in accordance with manufacturer's instructions.
- B. Completely saturate damaged wood with consolidant; allow to cure 8 hours minimum.
- C. Apply to end grain where exposed. Where end grain is not exposed, drill {3 mm} 1/8 inch holes staggered and at angles to side grain to expose as much end grain as possible.
- D. Prevent leakage with wax or clay plugs. Clean leakage before it cures.
- E. Apply second coat if first coat does not completely saturate and harden wood.

3.3 EPOXY REPAIR OF EXISTING WOOD

- A. Mix and apply epoxy in accordance with manufacturer's instructions.
- B. Apply epoxy putty to fill voids after consolidant has cured.
- C. Embed wood in center of large patches to reduce amount of filler.
- D. After filler has cured, sand, chisel or plane off to smooth surface, flush with adjacent surfaces.

3.4 REPLACEMENT OF EXISTING WOOD

- A. Remove existing damaged and deteriorated wood in manner to minimize damage to adjacent surfaces.
- B. Fit new components to original profiles and lines.
- C. Feather new materials into existing.
- D. Secure at maximum 12 inches on center.

- E. Miter comers and end joints.
- F. Scribe to adjacent construction with maximum 1/16 inch gaps.
- G. Sand cut ends and edges smooth.

END OF SECTION 06915

SECTION 08295 - WOOD DOOR RESTORATION

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Restoration and replacement of existing deteriorated wood door and frame elements, (NIC-garage door restoration).
 - 2. Restoration of existing hardware.
 - 3. Replacement of damaged and missing hardware.
 - 4. Replacement of broken and missing glass.
 - 5. Refinishing.
- B. Related Sections:
 - 1. Division 1: Administrative, procedural, and temporary work requirements.
 - 2. Section 06915 - Finish Carpentry Restoration.
 - 3. Section 08790 - Hardware Restoration.
 - 4. Section 08890 - Restoration Glazing.

1.2 DEFINITIONS

- A. Severe Deterioration: Deteriorated of the whole or part of an element to include voids and where the structural integrity of the element or the assembly in which the element is located is jeopardized.
- B. Moderate Deterioration: Deterioration of the whole or part of an element to include voids and where the element is punctured under moderate pressure from a screwdriver, but where the structural integrity of the element or the assembly in which the element is located is not jeopardized.
- C. Minor Deterioration: Deterioration of the whole or part of an element to the point where it feels soft but is not punctured under light pressure from a screwdriver, and voids do not exist.

1.3 SUBMITTALS

- A. Qualification Statement: Restorer qualifications, including previous projects.

1.4 QUALITY ASSURANCE

- A. Restorer Qualifications:
 - 1. Minimum 3 years experience in work of this Section.
 - 2. Successful completion of at least 3 projects of similar scope and complexity within past 5 years.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Hardware: Material and profile to match existing.

PART 3 - EXECUTION

3.1 RESTORATION

- A. This Section describes the overall restoration of existing doors, related wood trim, hardware, and glass. Other sections referenced under "Related Sections" specify certain aspects of Work in more detail.

3.2 REPAIR AND REPLACEMENT OF WOOD

- A. Severe Deterioration:
 - 1. Replace deteriorated wood door and frame members with new wood as specified in Section 06915.
 - 2. Match new wood to profile and grain of existing wood.
 - 3. Fit replacement wood to hairline joint, glue and nail.
- B. Moderate Deterioration:
 - 1. Epoxy patch voids as specified in Section 06915.
 - 2. Consolidate soft wood as specified in Section 06915.
- C. Minor Deterioration: Consolidate soft wood as specified in Section 06915.
- D. Missing Elements:
 - 1. Replace missing wood door and frame members with new wood as specified in Section 06915.
 - 2. Match new wood to profile and grain of existing wood.
 - 3. Fit replacement wood to hairline joint, glue and nail. Stapling [not] permitted.

3.3 REPAIR AND REPLACEMENT OF HARDWARE

- A. Restore existing operable items to working condition.
- B. Replace damaged and missing hardware.
- C. Replace missing fasteners with new to match existing. Tighten existing fasteners.
- D. Lubricate operable parts.
- E. Adjust for smooth operation.
- F. Install weatherstripping at heads, jambs, and sills.

3.4 REPLACEMENT OF GLASS

- A. Restore glass under provisions of Section 08890:
 - 1. Replace damaged and missing glass.
 - 2. Replace non-historic, non-matching glass with glass to match original.
 - 3. Replace deteriorated glazing putty and sealants.

3.5 REFINISHING WOOD

- A. Refinish wood as specified in painting section.
- B. Refinish exterior and interior faces of doors and exterior and interior side of frames.
- C. Remove doors from frames to permit access to edges. Finish edges same as faces.

END OF SECTION 08295

SECTION 08592 - WOOD WINDOW RESTORATION

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Restoration and replacement of existing deteriorated wood window elements and trim.
 - 2. Restoration of existing hardware.
 - 3. Replacement of damaged and missing hardware.
 - 4. Replacement of broken and missing glass.
 - 5. Refinishing.
- B. Related Sections:
 - 1. Division 1: Administrative, procedural, and temporary work requirements.
 - 2. Section 06915 - Finish Carpentry Restoration.
 - 3. Section 08890 - Restoration Glazing.

1.2 DEFINITIONS

- A. Severe Deterioration: Deteriorated of the whole or part of an element to include voids and where the structural integrity of the element or the assembly in which the element is located is jeopardized.
- B. Moderate Deterioration: Deterioration of the whole or part of an element to include voids and where the element is punctured under moderate pressure from a screwdriver, but where the structural integrity of the element or the assembly in which the element is located is not jeopardized.
- C. Minor Deterioration: Deterioration of the whole or part of an element to the point where it feels soft but is not punctured under light pressure from a screwdriver, and voids do not exist.

1.3 SUBMITTALS

- A. Shop Drawings:
 - 1. Include locations, dimensions, profiles, relationship to adjacent construction, hardware, weatherstripping, and attachments.
 - 2. Illustrate weatherstripping in relationship to each frame and sash profile.
- B. Samples: 6 inch long samples of each weatherstripping profile.
- C. Qualification Statement: Restorer qualifications, including previous projects.

1.4 QUALITY ASSURANCE

- A. Restorer Qualifications:
 - 1. Minimum 3 years experience in work of this Section.
 - 2. Successful completion of at least 3 projects of similar scope and complexity within past 5 years.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Hardware: material, profile, and finish to match existing.

- B. Window Weights: Reuse existing salvaged weights where possible. Provide new weights to match existing in profile and weight where existing weights are damaged or missing.
- C. Sash Cord: Cotton cord with copper wires
- D. Weatherstripping.

PART 3 - EXECUTION

3.1 RESTORATION

- A. This Section describes the overall restoration of existing windows, related wood trim, hardware, and glass. Other sections referenced under "Related Sections" specify certain aspects of Work in more detail.

3.2 REPAIR AND REPLACEMENT OF WOOD

- A. Severe Deterioration:
 1. Replace deteriorated wood sash and trim members with new wood as specified in Section 06915.
 2. Match new wood to profile and grain of existing wood.
 3. Fabricate frame and sash members with mortised and tenoned joints. Fit to hairline joint, glue and nail. Stapling not permitted.
- B. Moderate Deterioration:
 1. Epoxy patch voids as specified in Section 06915.
 2. Consolidate soft wood as specified in Section 06915.
- C. Minor Deterioration: Consolidate soft wood as specified in Section 06915.
- D. Missing Elements:
 1. Replace missing wood sash and trim members with new wood as specified in Section 06915.
 2. Match new wood to profile and grain of existing wood.
 3. Fabricate frame and sash members with mortised and tenoned joints. Fit to hairline joint, glue and nail. Stapling permitted.

3.3 REPAIR AND REPLACEMENT OF HARDWARE

- A. Restore existing operable items to working condition.
- B. Replace damaged and missing hardware.
- C. Replace broken and frayed sash cords.
- D. Reattach loose sash weights. Replace missing sash weights with new to match.
- E. Replace missing fasteners with new to match existing. Tighten existing fasteners.
- F. Lubricate operable parts.
- G. Adjust for smooth operation.

3.4 REPLACEMENT OF GLASS

- A. Restore glass under provisions of Section 08890:

1. Replace damaged and missing glass.
2. Replace non-historic, non-matching glass with glass to match existing.
3. Replace deteriorated glazing putty and sealants.

3.5 REFINISHING WOOD

- A. Refinish wood as specified in painting section.
- B. Refinish exterior wood frames, sash, trim, sills, and stools.

END OF SECTION 08592

SECTION 08890 - RESTORATION GLAZING

This master specification section will assist in the preparation of a project specification section on the replacement of clear, patterned, tinted, patterned, wired, beveled, and reproduction glass. Other glass types can be added by the specifier. Restoration of stained glass is covered by Restoration Master Specification Section 12110.

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Replacement of glass.
- B. Related Sections:
 - 1. Division 1: Administrative, procedural, and temporary work requirements.

1.2 REFERENCES

- A. American Society for Testing and Materials (ASTM):
 - 1. C 669 - Glazing Compounds for Back Bedding and Face Glazing of Metal Sash.
 - 2. C 920 - Elastomeric Joint Sealants.
 - 3. C 1036 - Flat Glass.
 - 4. C 1048 - Heat-Treated Flat Glass - Kind HS, Kind FT Coated and Uncoated Glass.

1.3 SUBMITTALS

- A. Product Data: Descriptive data for accessory items.
- B. Samples: Submit 2 samples 12 x 12 inches in size of each glass type..
- C. Qualification Statement: Fabricator and installer qualifications, including previous projects.

1.4 QUALITY ASSURANCE

- A. Fabricator and Installer Qualifications:
 - 5. Minimum 3 years experience in work of this Section.
 - 6. Successful completion of at least 3 projects of similar scope and complexity within past 5 years.

1.5 PROJECT CONDITIONS

- A. Perform glazing when ambient temperature is above 40 degrees F {4 degrees C}.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Replacement glass shall match existing. Safety glazing where required.

2.1 ACCESSORIES

- A. Glazing Compound: ASTM C 669, modified oil type, non-hardening, knife grade consistency, white color.
- B. Glazing Clips: manufacturer's standard.

PART 3 - EXECUTION

3.1 PREPARATION

- A. Clean glazing rabbets; remove loose and foreign matter.
- B. Clean glass just prior to installation.
- C. Seal porous rabbet surfaces with primer or sealer.
- D. Prime surfaces when recommended by sealant manufacturer.

3.2 INSTALLATION - GENERAL

- A. Install glass in accordance with [FGMA Glazing Manual and] glass manufacturer's instructions.
- B. Apply sealants, tapes, and compounds in accordance with manufacturer's instructions
- C. Use setting blocks and spacers to maintain minimum recommended glass edge and face clearances.

3.3 PROTECTION

- A. Mark glass with removable tape or signs.

END OF SECTION 08890

**Red Doe Plantation
1132 Francis Marion Road
Florence, SC 29501**

A. Surface Preparation

1. Remove all dirt, loose and peeling paint, mildew, chalk, grease, and other surface contaminants by power washing, scraping, and/or hand sanding. Sand glossy, rough, and patched surfaces.
2. Caulk cracks and open seams with PPG Top Gun 300 Premium Elastomeric Acrylic Sealant 1416.

B. Exterior Paint Schedule

1. Southern Cypress – Wood Lap Siding (currently painted):
 - a. **1st Coat:** PPG SEAL GRIP Interior/Exterior 100% Acrylic Universal Primer/Sealer 17-921.
 - b. **2nd Coat:** PPG Manor Hall Exterior Premium Semi-Gloss Latex 75-45 Series.
2. Southern Cypress – Columns:
 - a. **1st Coat:** PPG SEAL GRIP Interior/Exterior 100% Acrylic Universal Primer/Sealer 17-921.
 - b. **2nd Coat:** PPG Manor Hall Exterior Premium Semi-Gloss Latex 75-45 Series.
 - c. **3rd Coat:** PPG Manor Hall Exterior Premium Semi-Gloss Latex 75-45 Series.



PPG Architectural Coatings

GENERAL DESCRIPTION

TOP GUN® 300 Elastomeric Acrylic Sealant is a premium grade sealant that forms a flexible, durable, airtight, water-resistant seal that offers exceptional protection from environmental conditions and features high elongation and superior recovery. TOP GUN 300 is designed to be used on some of the most difficult applications, including crown molding, windows/doors, baseboards, pipes/vents, brick/masonry, siding/trim, drywall, countertops, glass, tuck pointing.

RECOMMENDED USES

Windows and Doors
Siding and Trim
Sinks and Counters
Hardboard and Flashing
Stucco and EIFS
Penetrations
Crown Molding

FEATURES / BENEFITS

80 year warranty
Exceptional Adhesion
Excellent Flexibility
Paintable
Interior/Exterior
TT-S 00230 Performance

LIMITATIONS OF USE

Not designed for use in engineered "expansion joints." Do not apply when rain is expected on exterior applications within 8 hours. Not recommended for applications below grade or where water may stand, or for traffic bearing surfaces. For deep cracks, always use closed-cell backer-rod. Do not use in cracks larger than 1/2" x 1/2". Not for food contact surfaces. NOTE: Painting the sealant before the recommended dry time may result in cracking. PROTECT FROM FREEZING.

TOP GUN® 300 Elastomeric Siliconized Acrylic Sealant

PRODUCTS

1416

White

PRODUCT DATA

Data below is based on White 1416.

Product Type:	Siliconized acrylic
VOC (theoretical)	<2%
Volume Per Tube:	10.1 oz.
Weight Per Gallon:	13.1 lbs.
Solids by Weight:	82% minimum
Elongation:	Excellent
Freeze/Thaw:	5 Cycles
Adhesion:	Excellent

Dry Time to Paint@ 70°F / 50% relative humidity:

Latex Paint 4 to 6 hours

Oil Base Paint 4 to 6 hours

(Expect longer dry times at lower temperatures and higher relative humidity.)

Estimated Coverage:	1/8" x 1/4" bead - 60 linear feet per tube 1/4" x 1/4" bead - 30 linear feet per tube.
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Clean Up:	Clean spills immediately with clean water and a soft cloth. Clean tools immediately after use with clean water.
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Flash Point:	>200°F (>93°C)
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ASTM Specification:	Exceeds Federal Specs TT-00230C; Type S, Class B; ASTM C-820, Grade NS, Class 12.5 and ASTM C-834, Type OP, Grade - 18°C.
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Note: This product is not formulated with lead or mercury containing materials.

GENERAL SURFACE PREPARATION

Where applicable, remove old sealant or caulking. Thoroughly dry the joints or surfaces, where the TOP GUN 300 will be applied. Remove all dirt, dust, oil, mildew, loose paint or other contaminants. For maximum adhesion, dull glossy surfaces. Bare surface should be primed before caulking.

WARNING! If you scrape, sand, or remove old paint, you may release lead dust or fumes. LEAD IS TOXIC. EXPOSURE TO LEAD DUST OR FUMES CAN CAUSE SERIOUS ILLNESS, SUCH AS BRAIN DAMAGE, ESPECIALLY IN CHILDREN. PREGNANT WOMEN SHOULD ALSO AVOID EXPOSURE. Wear a properly fitted NIOSH-approved respirator and prevent skin contact to control lead exposure. Clean up carefully with a HEPA vacuum and a wet mop. Before you start, find out how to protect yourself and your family by contacting the USEPA National Lead Information Hotline at 1-800-424-LEAD or log on to www.epa.gov/lead. Follow these instructions to control exposure to other hazardous substances that may be released during surface preparation.

DIRECTIONS FOR USE

Read all label and Material Safety Data Sheet (MSDS) information prior to use. MSDS are available through our website or by calling 1-800-441-9695. USE WITH ADEQUATE VENTILATION. KEEP OUT OF REACH OF CHILDREN.

Permissible temperatures during application:

Temperature Range: Air and surface
40°F to 110°F (43.3°C)
Optimum product temperature
60°F to 80°F (16°C to 27°C)

Dew Point: Surface must be at least 5°F (3°C) above the dew point.

Application Information: Install backer-rod uniformly into deep cracks to control sealant depth. For cracks up to 1/2 inch wide, set the backer-rod from 1/4 to 1/2 inch deep. Bond breaker tape may be used for joints not deep enough for backer-rod. Use a non-gassing foam backer rod or bond breaker tape to avoid 3 point adhesion.

Cut nozzle at a 45° angle.

Fill joints and cracks by holding the nozzle in the opening and filling completely from the bottom up. Cured bead should be between 1/8" and 1/2". Smooth immediately with a damp sponge or towel, or other tool as required.

Remove excess material with a wet cloth.

Dry excess sealant may be cut away.

SHIPPING

Freight Classification: PAINT OR PAINT RELATED MATERIAL

Packaging: 12-10.1 Ounce Tubes per carton

PPG Architectural Finishes, Inc. believes the technical data presented is currently accurate; however, no guarantee of accuracy, comprehensiveness, or performance is given or implied. Improvements in coatings technology may cause future technical data to vary from what is in this bulletin. For complete, up-to-date technical information, visit our web site or call 1-800-441-9695.



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PPG Industries, Inc.
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Pittsburgh, PA 15272
www.ppg.com



No.1416 1/2008

Architectural Coatings

SEAL GRIP® Interior/Exterior 100% Acrylic Universal Primer/Sealer

GENERAL DESCRIPTION

Our premium interior/exterior 100% acrylic latex primer is formulated to meet the performance requirements of the residential and commercial markets. SEAL GRIP® 100% Acrylic Primer/Sealer is especially formulated to block most stains - water, smoke, ink, markers, and tannin. SEAL GRIP® has exceptional adhesion to glossy surfaces. Also recommended as a whole house primer for use on properly prepared interior or exterior wood, masonry, plaster, wallboard, cement, brick, stucco, cement composition board, and wall coverings.

RECOMMENDED USES

Aluminum	Plaster
Brick	Stucco
Cement	Wallboard
Cement Composition Board	Wall Coverings
Galvanized Metal	Wood
Masonry	

FEATURES / BENEFITS

Whole House Primer
Superior Adhesion
Blocks Out Stains
Fast Dry - Topcoat In 1 Hour
Low Odor
Meets MPI category #6, Exterior Latex Wood Primer
Meets MPI category #17, Bonding Primer (Water Based)
Meets MPI category #39, Interior Latex Wood Primer
Meets MPI category #137, Stain Blocking Primer (Water Based)

LIMITATIONS OF USE

Apply when air, surface and product temperatures are above 35°F (2°C) and when the air and surface temperatures will remain above 35°F (2°C) for the next 24 hours. The pH of the substrate must be less than 13 before priming. Avoid exterior priming in direct sunlight, late in the day when dew or condensation are likely to form, or when rain is anticipated. **PROTECT FROM FREEZING.** This product must be topcoated. Severe stains may require two coats of primer. For maximum stain resistance, allow 4 hours before applying topcoat. For severe tannin stains, 24 hours may be needed between coats.

TINTING AND BASE INFORMATION

May be tinted to approximate color of the topcoat. Use PITTSBURGH® Paints Custom Colorants and refer to THE VOICE OF COLOR® formula book for tinting instructions.

17-921	White (Timtable)
17-922	Deep Base

PRODUCT DATA

PRODUCT TYPE:	100% Acrylic Latex
GLOSS:	5 to 10 (60° Gloss Meter)
VOC*:	0.74 lbs./gal. (89 g/L)
DFT:	1.2 minimum to 1.5 maximum mils

COVERAGE*:	400 to 500 sq. ft./gal. (37 to 46 sq. m/3.78L)
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Wet Film Thickness:	4.0 mils
Wet Microns:	101.6

Dry Film Thickness:	1.5 mils
Dry Microns:	38

Coverage does not include variation due to application methods, surface porosity, and/or mixing.

VOLUME SOLIDS*:	39% +/- 2%
WEIGHT SOLIDS*:	51% +/- 2%
VISCOSITY:	86 to 93 KU

WEIGHT/GALLON*:	10.5 lbs. (5.7 kg) +/- 0.2 lbs. (91 g)
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*Product data calculated on product 17-921.

DRYING TIME: Dry time @77°F (25°C); 50% relative humidity.

To Touch:	30 minutes
To Handle:	1 hour
To Recoat:	1 hour*
To Full Cure:	4 hours

*For maximum stain resistance allow 4 hours before applying topcoat.

Drying times listed may vary depending on temperature, humidity and air movement. If drying conditions are poor, longer drying times are required to achieve stain blocking.

FLASH POINT:	Over 200°F (93°C)
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CLEAN UP:	Warm, soapy water
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SEAL GRIP® Interior/Exterior 100% Acrylic Universal Primer/Sealer

Architectural Coatings

GENERAL SURFACE PREPARATION

Surface to be primed must be clean, dry, smooth, and free from dirt, grease, powdery or peeling paint, and other surface contaminants. Putty all nail holes and caulk all cracks and open seams. Sand all glossy, rough, and patched surfaces. Knots and resinous areas on new wood must be coated with shellac before applying primer. Sand lightly with fine sandpaper between coats. Do not wet paper with water.

WARNING! If you scrape, sand, or remove old paint, you may release lead dust or fumes. LEAD IS TOXIC. EXPOSURE TO LEAD DUST OR FUMES CAN CAUSE SERIOUS ILLNESS, SUCH AS BRAIN DAMAGE, ESPECIALLY IN CHILDREN. PREGNANT WOMEN SHOULD ALSO AVOID EXPOSURE. Wear a properly fitted NIOSH-approved respirator and prevent skin contact to control lead exposure. Clean up carefully with a HEPA vacuum and a wet mop. Before you start, find out how to protect yourself and your family by contacting the USEPA National Lead Information Hotline at 1-800-424-LEAD or log on to www.epa.gov/lead. In Canada contact a regional Health Canada office. Follow these instructions to control exposure to other hazardous substances that may be released during surface preparation.

NEW WOOD: New wood should be sanded smooth and wiped clean. Any knots or resinous areas should be sealed before painting. Countersink all nails. Putty flush with surface, then prime.

PREVIOUSLY PAINTED WOOD: All excessive chalking must be removed and the surface rinsed thoroughly. Remove all loose, peeling, or flaking paint by scraping or sanding. Feather back all rough edges to sound surface by sanding.

PLASTER, MASONRY, CONCRETE: New plaster or masonry should cure for at least 30 days and preferably 90 days prior to priming. The pH of the substrate must be less than 13 before priming.

STAIN RESISTANCE: For maximum stain resistance, allow 4 hours before applying topcoat. Drying is important to stain-blocking properties; if drying conditions are poor (low temperature, high humidity), longer drying times are required to achieve stain blocking. Severe stains may require two coats.

RECOMMENDED PRIMERS

None. See Surface Preparation Recommendations

DIRECTIONS FOR USE

Stir thoroughly before using and occasionally during use. **USE WITH ADEQUATE VENTILATION. KEEP OUT OF REACH OF CHILDREN.** Read all label and Material Safety Data Sheet (MSDS) information prior to use. MSDS are available through our website or by calling 1-800-441-9695.

Permissible temperatures during application:

Material:	35 to 90°F	2 to 32°C
Ambient:	35 to 100°F	2 to 38°C
Substrate:	35 to 100°F	2 to 38°C

APPLICATION INFORMATION

Application Equipment: Apply with a high quality brush, roller, paint pad or by spray equipment.

Airless Spray: Pressure 2000 psi, tip 0.015" - 0.021"

Spray equipment must be handled with due care and in accordance with manufacturer's recommendation. High-pressure injection of coatings into the skin by airless equipment may cause serious injury.

Brush: Polyester/Nylon Brush

Roller: 3/8" - 3/4" nap roller cover

Thinning: For maximum stain block properties, do not thin. May be thinned sparingly with water if needed for other applications.

PACKAGING

1-Gallon (3.78 L)

5-Gallon (18.9 L)

Quart (946 mL)

Not all products are available in all sizes.

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PPG Canada, Inc.
Architectural Coatings
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Brampton, ON L6T 5E4

A1.25 4/2007
(Supersedes 3/2006)

Architectural Coatings
MANOR HALL® Exterior Premium Semi-Gloss Acrylic Latex
Generic Type

100% Acrylic Latex/Urethane Modified

General Description

Our absolute best exterior paint. MANOR HALL® is our super premium 100% acrylic formulated to meet superior performance expectations. MANOR HALL®'s 100% acrylic and proprietary, automotive-grade urethane formula provides superior durability and flexibility that yields excellent tolerance to temperature fluctuations and weathering. MANOR HALL® has superior adhesion on chalky and aged alkyds, and vinyl and aluminum siding finishes (see Limitations of Use). Effective application down to 35°F (2°C). Recommended for use over properly prepared wood, aluminum and vinyl siding, cement-composition, primed metal, brick, and cured masonry and stucco surfaces.

Recommended Uses

Doors	Masonry
Primed Metal	Siding
Trim	Vinyl Siding
Windows	

Features / Benefits

Superior Hiding
Superior Adhesion
Proprietary Urethane Provides Added Durability and Flexibility
Fade & Chalk Resistance
Excellent Mildew Resistance on the Paint Film
Low Temperature Application to 35°F (2°C).
Soap & Water Clean-Up
Available in More Than 1800 Colors from THE VOICE OF COLOR® Design Collection

Limitations of Use

Apply only when air and surface temperatures are 35°F (2°C) or above and will remain above 35°F (2°C) for the next 24 hours. Avoid painting late in the day when dew or condensation are likely to form or if rain or snow are threatening. **PROTECT FROM FREEZING.** Not recommended for use on foot or vehicle traffic areas. Due to possibility of heat warping, do not paint vinyl siding darker than the original color. Drying times listed may vary depending on temperature, humidity and air movement. While this product provides a mildew resistant coating, growth may still occur if the substrate is not properly prepared prior to painting and/or if the substrate is consistently exposed to conditions conducive to mold, mildew, and algae. Examples of these conditions include, but are not limited to, under eaves, behind shrubbery and trees, and in areas that are consistently damp with little to no direct sunlight.

Tinting and Base Information

Use PITTSBURGH® Paints Custom Colorants to achieve hundreds of colors. Refer to THE VOICE OF COLOR® formula book for tinting instructions. Color selection over vinyl siding is limited. For information, call 1-800-441-9695.

75-110	White and Pastel Mixing Base
75-150	Midtone Mixing Base
75-200	Deeptone Mixing Base
75-300	Deep Rustic Mixing Base
75-45	Super White

Product Data

Gloss:	Semi-Gloss: 40 to 60 (60° Gloss Meter)
VOC*:	1.22 lbs/gal (146.40 g/L)
DFT:	1.10 minimum to 1.40 maximum mils
Coverage:	400 to 500 sq. ft./gal. (37 to 46 sq. m/3.78L)
Note: Does not include loss due to varying application method, surface porosity, or weathering.	
Volume Solids*:	33% +/- 2.0%
Weight Solids*:	48% +/- 2.0%
Viscosity:	86 to 96 KU
Weight/Gallon*:	10.6 lbs. (4.8 kg) +/- 0.2 lbs. (91 g)
Clean-up:	Soap and Water

*Percent solids calculated on product 75-45.

Drying Time:

To Touch:	1 hour
To Handle:	1 hour
To Recoat:	4 hours
To Full Cure:	30 days

Dry Time @77°F (25°C); 50% relative humidity

Flash Point: Over 200°F, (93°C)

Architectural Coatings

MANOR HALL® Exterior Premium Semi-Gloss Acrylic Latex

General Surface Preparation

Surface to be painted must be clean, dry, and free of dirt, loose and peeling paint, mildew, chalk, grease, rust, and other surface contaminants. Putty nail holes and caulk cracks and open seams. Sand glossy, rough, and patched surfaces. Prime bare wood, metal, and porous surfaces with the appropriate primer. Remove and inhibit regrowth of mildew by using PPG MILDEW CHECK® Multi-Purpose Wash, 18-1, by PITTSBURGH® Paints. Before use, be sure to read and follow the instructions and warnings on the label. **WARNING!** If you scrape, sand, or remove old paint, you may release lead dust or fumes. **LEAD IS TOXIC. EXPOSURE TO LEAD DUST OR FUMES CAN CAUSE SERIOUS ILLNESS, SUCH AS BRAIN DAMAGE, ESPECIALLY IN CHILDREN. PREGNANT WOMEN SHOULD ALSO AVOID EXPOSURE.** Wear a properly fitted NIOSH-approved respirator and prevent skin contact to control lead exposure. Clean up carefully with a HEPA vacuum and a wet mop. Before you start, find out how to protect yourself and your family by contacting the USEPA National Lead Information Hotline at 1-800-424-LEAD or log on to www.epa.gov/lead. In Canada contact a regional Health Canada office. Follow these instructions to control exposure to other hazardous substances that may be released during surface preparation.

NEW WOOD: Sand smooth and wipe clean. Seal knots and resinous areas. Countersink all nails. Putty flush with surface, then prime.

PREVIOUSLY PAINTED WOOD: Remove excessive chalking and rinse the surface thoroughly. Remove all loose, peeling, or flaking paint by scraping or sanding. Feather back all rough edges to sound surface by sanding. Prime all bare wood areas.

CONCRETE BLOCK, CINDER BLOCK, VERTICAL MASONRY: New concrete should cure for at least 30 days and preferably 90 days prior to priming. Fill block with an appropriate block filler. Surfaces previously coated with water thinned cement-base paint must be prepared with extra care. Such coatings must be completely removed for best results. If the coatings appear to be adhering tightly, a masonry sealer may be applied to seal the surface prior to topcoating.

METAL: Rust and other surface contaminants must be removed. Use appropriate primer.

GALVANIZED STEEL: Stabilizers must be removed by either brush blasting, sanding or chemical treatment.

ALUMINUM AND VINYL SIDING: Siding may present potential adhesion problems. Topcoat should be spot applied, allowed to cure overnight, then evaluated for adhesion. If adhesion is good, the application may proceed. If an adhesion problem is evident or suspected, the surface must be scuff-sanded prior to proceeding to ensure mechanical adhesion. Do not paint with a color darker than the original vinyl siding.

Recommended Primers

Wood	1-70, 77-109, 72-1, 17-921
Plywood	77-102, 72-1
Ferrous Metal	6-208, 6-212, 90-712
Galvanized Steel	6-209, 90-712
Aluminum	6-204, 90-712
Hardboard	17-921
Concrete Masonry Units, Masonry (Block Fillers)	6-7, 6-15, 6-16
Concrete, Masonry (Primers, Sealers)	4-603, 4-808

Directions for Use

Stir thoroughly before using and occasionally when in use. When using more than one can of the same color, mix together (box) before applying. **USE WITH ADEQUATE VENTILATION. KEEP OUT OF REACH OF CHILDREN.** Read all label and Material Safety Data Sheet (MSDS) information prior to use. MSDS are available through our website or by calling 1-800-441-9695.

Permissible temperatures during application:

Material:	50 to 90°F	10 to 32°C
Ambient:	35 to 100°F	2 to 38°C
Substrate:	35 to 100°F	2 to 38°C

Application Information

Recommended Spread Rates:

Wet Mills:	3.2 minimum to	4.0 maximum
Wet Microns:	81.3 minimum to	102.0 maximum
Dry Mills:	1.1 minimum to	1.4 maximum
Dry Microns:	38.0 minimum to	36.0 maximum

Application Equipment: Apply with a high quality brush, roller, paint pad, or by spray equipment. Where necessary, apply a second coat. Spray equipment must be handled with due care and in accordance with manufacturer's recommendation. High-pressure injection of coatings into the skin by airless equipment may cause serious injury.

Airless Spray: Pressure 2000 psi, tip 0.015" - 0.021"

Brush: Polyester/Nylon Brush

Roller: 3/16" - 3/8" nap roller cover

Thinning:

No thinning is usually required. If necessary add up to 1/4 pint (118 mL) of water per gallon (3.78 L) of paint.

Packaging: 1-Gallon (3.78L)
5-Gallon (18.9L)
Quart (946 mL)

Not all products are available in all sizes.

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B3.7 10/2006

22 Preservation Briefs

Technical Preservation Services
National Park Service
U.S. Department of the Interior



The Preservation and Repair of Historic Stucco

Anne Grimmer

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- » [Repairing Deteriorated Stucco](#)
- » [Mixes for Repair of Historic Stucco](#)
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A NOTE TO OUR USERS: The web versions of the Preservation Briefs differ somewhat from the printed versions. Many illustrations are new, captions are simplified, illustrations are typically in color rather than black and white, and some complex charts have been omitted.

The term "**stucco**" is used here to describe a type of exterior plaster applied as a two-or-three part coating directly onto masonry, or applied over wood or metal lath to a log or wood frame structure. Stucco is found in many forms on historic structures throughout the United States. It is so common, in fact, that it frequently goes unnoticed, and is often disguised or used to imitate another material. Historic stucco is also sometimes incorrectly viewed as a sacrificial coating, and consequently removed to reveal stone, brick or logs that historically were never intended to be exposed. Age and lack of maintenance hasten the deterioration of many historic stucco buildings. Like most historic building materials, stucco is at the mercy of the elements, and even though it is a protective coating, it is particularly susceptible to water damage.

Stucco is a material of deceptive simplicity: in most cases its repair should not be undertaken by a property owner unfamiliar with the art of plastering. Successful stucco repair requires the skill and experience of a professional plasterer. Therefore, this Brief has been prepared to provide background information on the nature and components of traditional stucco, as well as offer guidance on proper maintenance and repairs. The Brief will outline the requirements for stucco repair, and, when necessary, replacement. Although several stucco mixes representative of different periods are provided here for reference, this Brief does not include specifications for carrying out repair projects. Each project is unique, with its own set of problems that require individual solutions.

Historical Background

Stucco has been used since ancient times. Still widely used throughout the world, it is one of the most common of traditional building materials. Up until the late 1800's, stucco, like mortar, was



The stucco on the early-19th century Richardson-Owens-Thomas House in Savannah, Georgia, is a type of natural cement. Photo: NPS files.

primarily lime-based, but the popularization of portland cement changed the composition of stucco, as well as mortar, to a harder material. Historically, the term "plaster" has often been interchangeable with "stucco"; the term is still favored by many, particularly when referring to the traditional lime-based coating. By the nineteenth century "stucco," although originally denoting fine interior ornamental plasterwork, had gained wide acceptance in the United States to describe exterior plastering. "Render" and "rendering" are also terms used to describe stucco, especially in Great Britain. Other historic treatments and coatings related to stucco in that they consist at least in part of a similarly plastic or malleable material include: parging and pargeting, wattle and daub, "cob" or chalk mud, pisé de

terre, rammed earth, briquete entre poteaux or bousillage, half-timbering, and adobe. All of these are regional variations on traditional mixtures of mud, clay, lime, chalk, cement, gravel or straw. Many are still used today.

The Stucco Tradition in the United States

Stucco is primarily used on residential buildings and relatively small-scale commercial structures. Some of the earliest stucco buildings in the United States include examples of the Federal, Greek and Gothic Revival styles of the eighteenth and the nineteenth centuries that emulated European architectural fashions. Benjamin Henry Latrobe, appointed by Thomas Jefferson as Surveyor of Public Buildings of the United States in 1803, was responsible for the design of a number of important stucco buildings, including St. John's Church (1816), in Washington, D.C.

Nearly half a century later Andrew Jackson Downing also advocated the use of stucco in his influential book *The Architecture of Country Houses*, published in 1850. In Downing's opinion, stucco was superior in many respects to plain brick or stone because it was cheaper, warmer and dryer, and could be "agreeably" tinted. As a result of his advice, stuccoed Italianate style urban and suburban villas proliferated in many parts of the country during the third quarter of the nineteenth century.



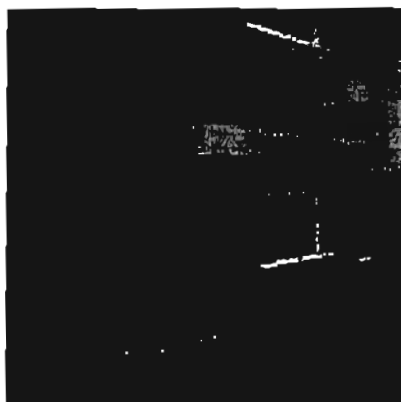
The stucco finish on Arlington House, Arlington, Virginia, was marbled in the 1850s, approximately 30 years after it was built. Photo: NPS files.

Revival Styles Promote Use of Stucco

The introduction of the many revival styles of architecture around the turn of the twentieth century, combined with the improvement and increased availability of portland cement resulted in a "craze" for stucco as a building material in the United States. Beginning about 1890 and gaining momentum into the 1930s and 1940s, stucco was associated with certain historic architectural styles, including: Prairie; Art Deco, and Art Moderne; Spanish Colonial, Mission, Pueblo, Mediterranean, English Cotswold Cottage, and Tudor Revival styles; as well as the ubiquitous bungalow and "four-square" house.

The fad for Spanish Colonial Revival, and other variations on this theme, was especially important in furthering stucco as a building material in the United States during this period, since stucco clearly looked like adobe.

Although stucco buildings were especially prevalent in California, the Southwest and Florida, ostensibly because of their Spanish heritage, this period also spawned stucco-coated, revival-style buildings all over the United States and Canada. The popularity of stucco as a cheap, and readily available material meant that by the 1920s, it was used for an increasing variety of building types. Resort hotels, apartment buildings, private mansions and movie theaters, railroad stations, and even gas stations and tourist courts took advantage of the "romance" of period styles, and adopted the stucco construction that had become synonymous with these styles.



The damage to this stucco appears to be caused by moisture infiltration. Photo: NPS files.

A Practical Building Material

Stucco has traditionally been popular for a variety of reasons. It was an inexpensive material that could simulate finely dressed stonework, especially when "scored" or "lined" in the European tradition. A stucco coating over a less finished and less costly substrate such as rubblestone, fieldstone, brick, log or wood frame, gave the building the appearance of being a more expensive and important structure. As a weather-repellent coating, stucco protected the building from wind and rain penetration, and also offered a certain amount of fire protection. While stucco was usually applied during construction as part of the building design, particularly over rubblestone or fieldstone, in some instances it was added later to protect the

structure, or when a rise in the owner's social status demanded a comparable rise in his standard of living.

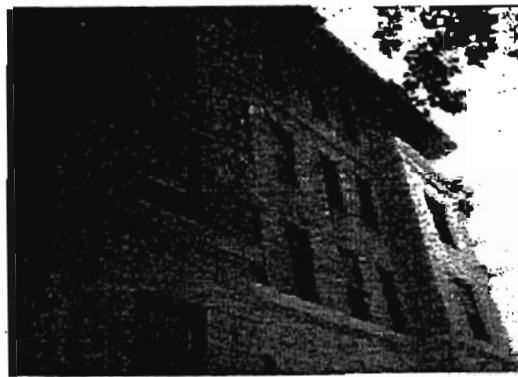
Composition of Historic Stucco

Before the mid-to-late nineteenth century, stucco consisted primarily of hydrated or slaked lime, water and sand, with straw or animal hair included as a binder. Natural cements were frequently used in stucco mixes after their discovery in the United States during the 1820s. Portland cement was first manufactured in the United States in 1871, and it gradually replaced natural cement. After about 1900, most stucco was composed primarily of portland cement, mixed with some lime. With the addition of portland cement, stucco became even more versatile and durable. No longer used just as a coating for a substantial material like masonry or log, stucco could now be applied over wood or metal lath attached to a light wood frame. With this increased strength, stucco ceased to be just a veneer and became a more integral part of the building structure.

Today, gypsum, which is hydrated calcium sulfate or sulfate of lime, has to a great extent replaced lime. Gypsum is preferred because it hardens faster and has less shrinkage than lime. Lime is generally used only in the finish coat in contemporary stucco work.

The composition of stucco depended on local custom and available materials. Stucco often

contained substantial amounts of mud or clay, marble or brick dust, or even sawdust, and an array of additives ranging from animal blood or urine, to eggs, keratin or gluesize (animal hooves and horns), varnish, wheat paste, sugar, salt, sodium silicate, alum, tallow, linseed oil, beeswax, and wine, beer, or rye whiskey. Waxes, fats and oils were included to introduce water-repellent properties, sugary materials reduced the amount of water needed and slowed down the setting time, and alcohol acted as an air entrainer. All of these additives contributed to the strength and durability of the stucco.



Caulking is not an appropriate method for repairing cracks in historic stucco. Photo: NPS files.

The appearance of much stucco was determined by the color of the sand--or sometimes burnt clay--used in the mix, but often stucco was also tinted with natural pigments, or the surface whitewashed or color-washed after stuccoing was completed. Brick dust could provide color, and other coloring materials that were not affected by lime, mostly mineral pigments, could be added to the mix for the final finish coat. Stucco was also marbled or marbleized--stained to look like stone by diluting oil of vitriol (sulfuric acid) with water, and mixing this with a yellow ochre, or another color. As the twentieth century progressed, manufactured or synthetic pigments were added at the factory to some prepared stucco mixes.

Methods of Application

Stucco is applied directly, without lath, to masonry substrates such as brick, stone, concrete or hollow tile. But on wood structures, stucco, like its interior counterpart plaster, must be applied over lath in order to obtain an adequate key to hold the stucco. Thus, when applied over a log structure, stucco is laid on horizontal wood lath that has been nailed on vertical wood furring strips attached to the logs. If it is applied over a wood frame structure, stucco may be applied to wood or metal lath nailed directly to the wood frame; it may also be placed on lath that has been attached to furring strips. The furring strips are themselves laid over building paper covering the wood sheathing.



The dry materials must be mixed thoroughly before adding water to make the stucco. Photo: NPS files.

Wood lath was gradually superseded by expanded metal lath introduced in the late-nineteenth and early-twentieth century. When stuccoing over a stone or brick substrate, it was customary to cut back or rake out the mortar joints if they were not already recessed by natural weathering or erosion, and sometimes the bricks themselves were gouged to provide a key for the stucco. This helped provide the necessary bond for the stucco to remain attached to the masonry, much like the key provided by wood or metal lath on frame buildings.

Like interior wall plaster, stucco has traditionally been applied as a multiple-layer process, sometimes consisting of two coats, but more commonly as three. Whether applied directly to a masonry substrate or onto wood or metal lath, this consists of a first "scratch" or "pricking-up" coat, followed by a second scratch coat, sometimes referred to as a "floating" or "brown" coat, followed finally by the "finishing" coat. Up until the late-nineteenth century, the first and the second coats were of much the same composition, generally consisting of lime, or natural cement, sand, perhaps clay, and one or more of the

additives previously mentioned. Straw or animal hair was usually added to the first coat as a binder. The third, or finishing coat, consisted primarily of a very fine mesh grade of lime and sand, and sometimes pigment. As already noted, after the 1820s, natural cement was also a common ingredient in stucco until it was replaced by portland cement.

Both masonry and wood lath must be kept wet or damp to ensure a good bond with the stucco. Wetting these materials helps to prevent them from pulling moisture out of the stucco too rapidly, which results in cracking, loss of bond, and generally poor quality stuccowork.

Traditional Stucco Finishes

Until the early-twentieth century when a variety of novelty finishes or textures were introduced, the last coat of stucco was commonly given a smooth, troweled finish, and then scored or lined in imitation of ashlar. The illusion of masonry joints was sometimes enhanced by a thin line of white lime putty, graphite, or some other pigment. Some nineteenth century buildings feature a water table or raised foundation of roughcast stucco that differentiates it from the stucco surface above, which is smooth and scored. Other novelty or textured finishes associated with the "period" or revival styles of the early-twentieth century include: the English cottage finish, adobe and Spanish, pebble-dashed or dry-dash surface, fan and sponge texture, reticulated and vermiculated, roughcast (or wet dash), and sgraffito.

Repairing Deteriorated Stucco

Regular Maintenance

Although A. J. Downing alluded to stuccoed houses in Pennsylvania that had survived for over a century in relatively good condition, historic stucco is inherently not a particularly permanent or long-lasting building material. Regular maintenance is required to keep it in good condition. Unfortunately, many older or historic buildings are not always accorded this kind of care.

Because building owners knew stucco to be a protective, but also somewhat fragile coating, they employed a variety of means to prolong its usefulness. The most common treatment was to whitewash stucco, often annually. The lime in the whitewash offered protection and stability and helped to harden the stucco. Most importantly, it filled hairline cracks before they could develop into larger cracks and let in moisture. To improve water repellency, stucco buildings were also sometimes coated with paraffin, another type of wax, or other stucco-like coatings, such as oil mastics.

Assessing Damage

Most stucco deterioration is the result of water infiltration into the building structure, either through the roof, around chimneys, window and door openings, or excessive ground water or moisture penetrating through, or splashing up from the foundation. Potential causes of deterioration include: ground settlement lintel and door frame settlement, inadequate or leaking gutters and downspouts, intrusive vegetation, moisture migration within walls due to interior condensation and humidity, vapor drive problems caused by furnace, bathroom and kitchen vents, and rising damp resulting

from excessive ground water and poor drainage around the foundation. Water infiltration will cause wood lath to rot, and metal lath and nails to rust, which eventually will cause stucco to lose its bond and pull away from its substrate.

After the cause of deterioration has been identified, any necessary repairs to the building should be made first before repairing the stucco. Such work is likely to include repairs designed to keep excessive water away from the stucco, such as roof, gutter, downspout and flashing repairs, improving drainage, and redirecting rainwater runoff and splash-back away from the building. Horizontal areas such as the tops of parapet walls or chimneys are particularly vulnerable to water infiltration, and may require modifications to their original design, such as the addition of flashing to correct the problem.



The deteriorated surface of this catch basin is being re-stuccoed. Photo: NPS files.

Previous repairs inexpertly carried out may have caused additional deterioration, particularly if executed in portland cement, which tends to be very rigid, and therefore incompatible with early, mostly soft lime-based stucco that is more "flexible." Incompatible repairs, external vibration caused by traffic or construction, or building settlement can also result in cracks which permit the entrance of water and cause the stucco to fail.

Before beginning any stucco repair, an assessment of the stucco should be undertaken to determine the extent of the damage, and how much must be replaced or repaired. Testing should be carried out systematically on all elevations of the building to determine the overall condition of the stucco. Some areas in need of repair will be clearly evidenced by missing sections of stucco or stucco layers. Bulging or cracked areas are obvious places to begin. Unsound, punky or soft areas that have lost their key will echo with a hollow sound when tapped gently with a wooden or acrylic hammer or mallet.

Identifying the Stucco Type

Analysis of the historic stucco will provide useful information on its primary ingredients and their proportions, and will help to ensure that the new replacement stucco will duplicate the old in strength, composition, color and texture as closely as possible. However, unless authentic, period restoration is required, it may not be worthwhile, nor in many instances possible, to attempt to duplicate all of the ingredients (particularly some of the additives), in creating the new stucco mortar. Some items are no longer available, and others, notably sand and lime—the major components of traditional stucco—have changed radically over time. For example, most sand used in contemporary masonry work is manufactured sand, because river sand, which was used historically, is difficult to obtain today in many parts of the country. The physical and visual qualities of manufactured sand versus river sand, are quite different, and this affects the way stucco works, as well as the way it looks. The same is true of lime, which is frequently replaced by gypsum in modern stucco mixes. And even if identification of all the items in the historic stucco mix were possible, the analysis would still not reveal how the original stucco was mixed and applied.

There are, however, simple tests that can be carried out on a small piece of stucco to determine its basic makeup. A dilute solution of hydrochloric (muriatic) acid will dissolve

lime-based stucco, but not portland cement. Although the use of portland cement became common after 1900, there are no precise cutoff dates, as stuccoing practices varied among individual plasterers, and from region to region. Some plasterers began using portland cement in the 1880s, but others may have continued to favor lime stucco well into the early twentieth century. While it is safe to assume that a late-eighteenth or early-nineteenth century stucco is lime-based, late-nineteenth or early-twentieth century stucco may be based on either lime or portland cement. Another important factor to take into consideration is that an early lime-stucco building is likely to have been repaired many times over the ensuing years, and it is probable that at least some of these patches consist of portland cement.

Planning the Repair

Once the extent of damage has been determined, a number of repair options may be considered. Small hairline cracks usually are not serious and may be sealed with a thin slurry coat consisting of the finish coat ingredients, or even with a coat of paint or whitewash.

Commercially available caulking compounds are not suitable materials for patching hairline cracks. Because their consistency and texture is unlike that of stucco, they tend to weather differently, and attract more dirt; as a result, repairs made with caulking compounds may be highly visible, and unsightly. Larger cracks will have to be cut out in preparation for more extensive repair. Most stucco repairs will require the skill and expertise of a professional plasterer.



The stucco will be applied to the wire lath laid over the area to be patched. Photo: NPS files.

In the interest of saving or preserving as much as possible of the historic stucco, patching rather than wholesale replacement is preferable. When repairing heavily textured surfaces, it is not usually necessary to replace an entire wall section, as the textured finish, if well-executed, tends to conceal patches, and helps them to blend in with the existing stucco. However, because of the nature of smooth-finished stucco, patching a number of small areas scattered over one elevation may not be a successful repair approach unless the stucco has been previously painted, or is to be painted following the repair work. On unpainted stucco such patches are hard to conceal, because they may not match exactly or blend in with the rest of the historic stucco surface. For this reason it is recommended, if possible, that stucco repair be carried out in a contained or well-defined area, or if the stucco is scored, the repair patch should be "squared-off" in such a way as to follow existing scoring. In some cases, especially in a highly visible location, it may be preferable to restucco an entire wall section or

feature. In this way, any differences between the patched area and the historic surface will not be so readily apparent.

Repair of historic stucco generally follows most of the same principles used in plaster repair. First, all deteriorated, severely cracked and loose stucco should be removed down to the lath (assuming that the lath is securely attached to the substrate), or down to the masonry if the stucco is directly applied to a masonry substrate. A clean surface is necessary to obtain a good bond between the stucco and substrate. The areas to be patched should be cleaned of all debris with a bristle brush, and all plant growth, dirt, loose paint, oil or grease should be removed. If necessary, brick or stone mortar joints should then be raked out to a depth of approximately 5/8" to ensure a good bond between the substrate and the new stucco.

To obtain a neat repair, the area to be patched should be squared-off with a butt joint, using a cold chisel, a hatchet, a diamond blade saw, or a masonry bit. Sometimes it may be preferable to leave the area to be patched in an irregular shape which may result in a less conspicuous patch. Proper preparation of the area to be patched requires very sharp tools, and extreme caution on the part of the plasterer not to break keys of surrounding good stucco by "over-sounding" when removing deteriorated stucco.

To ensure a firm bond, the new patch must not overlap the old stucco. If the stucco has lost its bond or key from wood lath, or the lath has deteriorated or come loose from the substrate, a decision must be made whether to try to reattach the old lath, to replace deteriorated lath with new wood lath, or to leave the historic wood lath in place and supplement it with modern expanded metal lath. Unless authenticity is important, it is generally preferable (and easier) to nail new metal lath over the old wood lath to support the patch. Metal lath that is no longer securely fastened to the substrate may be removed and replaced in kind, or left in place, and supplemented with new wire lath.

When repairing lime-based stucco applied directly to masonry, the new stucco should be applied in the same manner, directly onto the stone or brick. The stucco will bond onto the masonry itself without the addition of lath because of the irregularities in the masonry or those of its mortar joints, or because its surface has been scratched, scored or otherwise roughened to provide an additional key. Cutting out the old stucco at a diagonal angle may also help secure the bond between the new and the old stucco. For the most part it is not advisable to insert metal lath when restuccoing historic masonry in sound condition, as it can hasten deterioration of the repair work. Not only will attaching the lath damage the masonry, but the slightest moisture penetration can cause metal lath to rust. This will cause metal to expand, eventually resulting in spalling of the stucco, and possibly the masonry substrate too.

If the area to be patched is properly cleaned and prepared, a bonding agent is usually not necessary. However, a bonding agent may be useful when repairing hairline cracks, or when dealing with substrates that do not offer a good bonding surface. These may include dense stone or brick, previously painted or stuccoed masonry, or spalling brick substrates. A good mechanical bond is always preferable to reliance on bonding agents. Bonding agents should not be used on a wall that is likely to remain damp or where large amounts of salts are present. Many bonding agents do not survive well under such conditions, and their use could jeopardize the longevity of the stucco repair.

A stucco mix compatible with the historic stucco should be selected after analyzing the existing stucco. It can be adapted from a standard traditional mix of the period, or based on one of the mixes included here. Stucco consisting mostly of portland cement generally will not be physically compatible with the softer, more flexible lime-rich historic stuccos used throughout the eighteenth and much of the nineteenth centuries. The differing expansion and contraction rates of lime stucco and portland cement stucco will normally cause the stucco to crack. Choosing a stucco mix that is durable and compatible with the historic stucco on the building is likely to involve considerable trial and error, and probably will require a number of test samples, and even more if it is necessary to match the color. It is best to let the stucco test samples weather as long as possible—ideally one year, or at least through a change of seasons, in order to study the durability of the mix and its compatibility with the existing stucco, as well as the weathering of the tint if the building will not be painted and color match is



The final finish coat will be applied to this scratch coat.
Photo: NPS files.

an important factor.

If the test samples are not executed on the building, they should be placed next to the stucco remaining on the building to compare the color, texture and composition of the samples with the original. The number and thickness of stucco coats used in the repair should also match the original.

After thoroughly dampening the masonry or wood lath, the first, scratch coat should be applied to the masonry substrate, or wood or metal lath, in a thickness that corresponds to the original if extant, or generally about 1/4" to 3/8". The scratch coat should be scratched or crosshatched with a comb to provide a key to hold the second coat. It usually takes 24-72 hours, and longer in cold weather, for each coat to dry before the next coat can be applied. The second coat should be about the same thickness as the first, and the total thickness of the first two coats should generally not exceed about 5/8". This second or leveling coat should be roughened using a wood float with a nail protruding to provide a key for the final or finish coat. The finish coat, about 1/4" thick, is applied after the previous coat has initially set. If this is not feasible, the base coat should be thoroughly dampened when the finish coat is applied later. The finish coat should be worked to match the texture of the original stucco.

Colors and Tints for Historic Stucco Repair



The new addition on the right is stucco scored to imitate the limestone of the historic building on the left. Photo: NPS files.

The color of most early stucco was supplied by the aggregate included in the mix—usually the sand. Sometimes natural pigments were added to the mix, and eighteenth and nineteenth-century scored stucco was often marbleized or painted in imitation of marble or granite. Stucco was also frequently coated with whitewash or a colorwash. This tradition later evolved into the use of paint, its popularity depending on the vagaries of fashion as much as a means of concealing repairs. Because most of the early colors were derived from nature, the resultant stucco tints tended to be mostly earth-toned. This was true until the advent of brightly colored stucco in the early decades of the twentieth century. This was the so-called "Jazz Plaster" developed by O.A. Malone,

the "man who put color into California," and who founded the California Stone Products Corporation in 1927. California Stucco was revolutionary for its time as the first stucco/plaster to contain colored pigment in its pre-packaged factory mix.

When patching or repairing a historic stucco surface known to have been tinted, it may be possible to determine through visual or microscopic analysis whether the source of the coloring is sand, cement, or pigment. Although some pigments or aggregates used traditionally may no longer be available, a sufficiently close color-match can generally be approximately using sand, natural or mineral pigments, or a combination of these. Obtaining such a match will require testing and comparing the color of the dried test samples with the original. Successfully combining pigments in the dry stucco mix prepared for the finish coat requires considerable skill. The amount of pigment must be carefully measured for each batch of stucco. Overworking the mix can make the pigment separate from the lime. Changing the amount of water added to the mix, or using water to apply the tinted finish coat, will also affect the color of the stucco when it dries.

Generally, the color obtained by hand-mixing these ingredients will provide a sufficiently close match to cover an entire wall or an area distinct enough from the rest of the structure that the color differences will not be obvious. However, it may not work for small patches conspicuously located on a primary elevation, where color differences will be especially noticeable. In these instances, it may be necessary to conceal the repairs by painting the entire patched elevation, or even the whole building.

Many stucco buildings have been painted over the years and will require repainting after the stucco repairs have been made. Limewash or cement-based paint, latex paint, or oil-based paint are appropriate coatings for stucco buildings. The most important factor to consider when repainting a previously painted or coated surface is that the new paint be compatible with any coating already on the surface. In preparation for repainting, all loose or peeling paint or other coating material not firmly adhered to the stucco must be removed by hand-scraping or natural bristle brushes. The surface should then be cleaned.

Cement-based paints, most of which today contain some portland cement and are really a type of limewash, have traditionally been used on stucco buildings. The ingredients were easily obtainable. Furthermore, the lime in such paints actually bonded or joined with the stucco and provided a very durable coating. In many regions, whitewash was applied annually during spring cleaning. Modern, commercially available premixed masonry and mineral-based paints may also be used on historic stucco buildings.

If the structure must be painted for the first time to conceal repairs, almost any of these coatings may be acceptable depending on the situation. Latex paint, for example, may be applied to slightly damp walls or where there is an excess of moisture, but latex paint will not stick to chalky or powdery areas. Oil-based, or alkyd paints must be applied only to dry walls; new stucco must cure up to a year before it can be painted with oil-based paint.

Contemporary Stucco Products

There are many contemporary stucco products on the market today. Many of them are not compatible, either physically or visually, with historic stucco buildings. Such products should be considered for use only after consulting with a historic masonry specialist. However, some of these prepackaged tinted stucco coatings may be suitable for use on stucco buildings dating from the late-nineteenth or early-twentieth century, as long as the color and texture are appropriate for the period and style of the building. While some masonry contractors may, as a matter of course, suggest that a water-repellent coating be applied after repairing old stucco, in most cases this should not be necessary, since color washes and paints serve the same purpose, and stucco itself is a protective coating.

Cleaning Historic Stucco Surfaces

Historic stucco buildings often exhibit multiple layers of paint or limewash. Although some stucco surfaces may be cleaned by water washing, the relative success of this procedure depends on two factors: the surface texture of the stucco, and the type of dirt to be removed. If simply removing airborne dirt, smooth unpainted stucco, and heavily-textured painted stucco may sometimes be cleaned using a low-pressure water wash, supplemented by scrubbing with soft natural bristle brushes, and possibly non-ionic detergents. Organic plant material, such as algae and mold, and metallic stains may be removed from stucco using poultices and appropriate solvents. Although these same methods may be employed to clean unpainted roughcast, pebble-dash, or any stucco

surface featuring exposed aggregate, due to the surface irregularities, it may be difficult to remove dirt, without also removing portions of the decorative textured surface. Difficulty in cleaning these surfaces may explain why so many of these textured surfaces have been painted.

When Total Replacement is Necessary

Complete replacement of the historic stucco with new stucco of either a traditional or modern mix will probably be necessary only in cases of extreme deterioration-- that is, a loss of bond on over 40-50 percent of the stucco surface. Another reason for total removal might be that the physical and visual integrity of the historic stucco has been so compromised by prior incompatible and ill-conceived repairs that patching would not be successful.

When stucco no longer exists on a building there is more flexibility in choosing a suitable mix for the replacement. Since compatibility of old and new stucco will not be an issue, the most important factors to consider are durability, color, texture and finish. Depending on the construction and substrate of the building, in some instances it may be acceptable to use a relatively strong cement-based stucco mortar. This is certainly true for many late-nineteenth and early-twentieth century buildings, and may even be appropriate to use on some stone substrates even if the original mortar would have been weaker, as long as the historic visual qualities noted above have been replicated. Generally, the best principle to follow for a masonry building is that the stucco mix, whether for repair or replacement of historic stucco, should be somewhat weaker than the masonry to which it is to be applied in order not to damage the substrate.

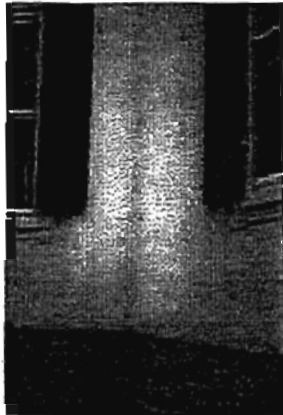
General Guidance for Historic Stucco Repair

A skilled professional plasterer will be familiar with the properties of materials involved in stucco repair and will be able to avoid some of the pitfalls that would hinder someone less experienced. General suggestions for successful stucco repair parallel those involving restoration and repair of historic mortar or plaster. In addition, the following principles are important to remember:

- Mix only as much stucco as can be used in one and one-half to two hours. This will depend on the weather (mortar will harden faster under hot and dry, or sunny conditions); and experience is likely to be the best guidance. Any remaining mortar should be discarded; it should not be retempered.
- Stucco mortar should not be over-mixed. (Hand mix for 10-15 minutes after adding water, or machine mix for 3-4 minutes after all ingredients are in mixer.) Over-mixing can cause crazing and discoloration, especially in tinted mortars. Over-mixing will also tend to make the mortar set too fast, which will result in cracking and poor bonding or keying to the lath or masonry substrate.
- Wood lath or a masonry substrate, but not metal lath, must be thoroughly wetted before applying stucco patches so that it does not draw moisture out of the stucco too rapidly. To a certain extent, bonding agents also serve this same purpose. Wetting the substrate helps retard drying.
- To prevent cracking, it is imperative that stucco not dry too fast. Therefore, the area to be stuccoed should be shaded, or even covered if possible, particularly in hot weather. It is also a good idea in hot weather to keep the newly stuccoed area damp, at approximately 90 per cent humidity, for a period of 48 to 72 hours.
- Stucco repairs, like most other exterior masonry work, should not be undertaken in cold weather (below 40 degrees Fahrenheit, and preferably warmer), or if there is danger of frost.

Historic Stucco Textures

Most of the oldest stucco in the U.S. dating prior to the late-nineteenth century, will generally have a smooth, troweled finish (sometimes called a sand or float finish), possibly scored to resemble ashlar masonry units. Scoring may be incised to simulate masonry joints, the scored lines may be emphasized by black or white penciling, or the lines may simply be drawn or painted on the surface of the stucco. In some regions, at least as early as the first decades of the nineteenth century, it was not uncommon to use a roughcast finish on the foundation or base of an otherwise smooth-surfaced building. Roughcast was also used as an overall stucco finish for some outbuildings, and other less important types of structures.



This stucco house has a rough cast finish.
Photo: NPS files.

A wide variety of decorative surface textures may be found on revival style stucco buildings, particularly residential architecture. These styles evolved in the late-nineteenth century and peaked in popularity in the early decades of the twentieth century. Frank Lloyd Wright favored a smooth finish stucco, which was imitated on much of the Prairie style architecture inspired by his work. Some of the more picturesque surface textures include: English Cottage or English Cotswold finish; sponge finish; fan texture; adobe finish; and Spanish or Italian finish. Many of these finishes and countless other regional and personalized variations on them are still in use.

The most common early-twentieth century stucco finishes are often found on bungalow-style houses, and include: spatter or spatterdash (sometimes called roughcast, harling, or wetdash), and pebble-dash or drydash. The spatterdash finish is applied by throwing the stucco mortar against the wall using a whisk broom or a stiff fiber brush, and it requires considerable skill on the part of the plasterer to achieve a consistently rough wall surface. The mortar used to obtain this texture is usually composed simply of a regular sand, lime, and cement mortar, although it may sometimes contain small pebbles or crushed stone aggregate, which replaces one-half the normal sand content. The pebble-dash or drydash finish is accomplished manually by the plasterer throwing or "dashing" dry pebbles (about 1/8" to 1/4" in size), onto a coat of stucco freshly applied by another plasterer. The pebbles must be thrown at the wall with a scoop with sufficient force and skill that they will stick to the stuccoed wall. A more even or uniform surface can be achieved by patting the stones down with a wooden float. This finish may also be created using a texturing machine.

Summary

Stucco on historic buildings is especially vulnerable not only to the wear of time and exposure to the elements, but also at the hands of well-intentioned "restorers," who may want to remove stucco from eighteenth and nineteenth century structures, to expose what they believe to be the original or more "historic" brick, stone or log underneath. Historic stucco is a character-defining feature and should be considered an important historic building material, significant in its own right. While many eighteenth and nineteenth century buildings were stuccoed at the time of construction, others were stuccoed later for reasons of fashion or practicality. As such, it is likely that this stucco has acquired significance over time, as part of the history and evolution of a building. Thus, even later, non-historic stucco should be retained in most instances; and similar

logic dictates that new stucco should not be applied to a historic building that was not stuccoed previously. When repairing historic stucco, the new stucco should duplicate the old as closely as possible in strength, composition, color and texture.

Mixes for Repair of Historic Stucco

Historic stucco mixes varied a great deal regionally, depending as they did on the availability of local materials. There are probably almost as many mixes that can be used for repair of historic stucco as there are historic stucco buildings. For this reason it is recommended that at least a rudimentary analysis of the existing historic stucco be carried out in order to determine its general proportions and primary ingredients. However, if this is not possible, or if test results are inconclusive, the following mixes are provided as reference. Many of the publications listed under "Selected Reading" include a variety of stucco mixes and should also be consulted for additional guidance.

Materials Specifications should conform to those contained in Preservation Briefs 2: Repointing Mortar Joints in Historic Masonry Buildings, and are as follows:

- Lime should conform to ASTM C207, Type S, Hydrated Lime for Masonry Purposes.
- Sand should conform to ASTM C144 to assure proper gradation and freedom from impurities. Sand, or other type of aggregate, should match the original as closely as possible.
- Cement should conform to ASTM C150, Type II (white, nonstaining), portland cement.
- Water should be fresh, clean and potable.
- If hair or fiber is used, it should be goat or cattle hair, or pure manilla fiber of good quality, ½" to 2" in length, clean, and free of dust, dirt, oil, grease or other impurities.
- Rules to remember: More lime will make the mixture more plastic, but stucco mortar with a very large proportion of lime to sand is more likely to crack because of greater shrinkage; it is also weaker and slower to set. More sand or aggregate, will minimize shrinkage, but make the mixture harder to trowel smooth, and will weaken the mortar.

Soft Lime Stucco (suitable for application to buildings dating from 1700-1850)

A.J. Downing's Recipe for Soft Lime Stucco

1 part lime

2 parts sand

(A.J. Downing, "The Architecture of Country Houses," 1850)

Vieux Carre Masonry Maintenance Guidelines

Base Coats (2):

1 part by volume hydrated lime

3 parts by volume aggregate [sand]--size to match original

6 pounds/cubic yards hair or fiber

Water to form a workable mix,

Finish Coat:

1 part by volume hydrated lime

3 parts aggregate [sand]--size to match original

Water to form a workable mix.

Note: No portland cement is recommended in this mix, but if it is needed to increase the workability of the mix and to decrease the setting time, the amount of portland cement added should never exceed 1 part to 12 parts lime and sand.

("Vieux Carre Masonry Maintenance Guidelines," June, 1980.)

"Materials for Soft Brick Mortar and for Soft Stucco"

5 gallons hydrated lime

10 gallons sand

1 quart white, nonstaining portland cement (1 cup only for pointing)

Water to form a workable mix.

(Koch and Wilson, Architects, New Orleans, Louisiana, February, 1980)

Mix for Repair of Traditional Natural Cement or Hydraulic Lime Stucco

1 part by volume hydrated lime

2 parts by volume white portland cement

3 parts by volume fine mason's sand

If hydraulic lime is available, it may be used instead of lime-cement blends.
("Conservation Techniques for the Repair of Historical Ornamental Exterior Stucco, January, 1990)

Early twentieth century Portland Cement Stucco

1 part portland cement

2-1/2 parts sand

Hydrated lime = to not more than 15% of the cement's volume

Water to form a workable mix.

The same basic mix was used for all coats, but the finish coat generally contained more lime than the undercoats. ("Illinois Preservation Series No. 2: Stucco," January, 1980)

American Portland Cement Stucco Specifications (c. 1929)

Base Coats:

5 pounds, dry, hydrated lime

1 bag portland cement (94 lbs.)

Not less than 3 cubic feet (3 bags) sand (passed through a #8 screen)

Water to make a workable mix.

Finish Coat:

Use WHITE portland cement in the mix in the same proportions as above.

To color the stucco add not more than 10 pounds pigment for each bag of cement contained in the mix.

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