

BUNCOMBE COUNTY SCHOOLS

Erwin High School
E Wing Roof Replacement

ASHEVILLE, NORTH CAROLINA

MARCH 7, 2012 @ 2:00 PM

BUNCOMBE COUNTY SCHOOLS
ERWIN HIGH SCHOOL
E WING ROOF REPLACEMENT
ASHEVILLE, NORTH CAROLINA

January 31, 2012



BUNCOMBE COUNTY SCHOOLS
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ADVERTISEMENT FOR BIDS

Sealed proposals will be received by the Buncombe County Board of Education in the Executive Conference Room of the Buncombe County Board of Education offices, 175 Bingham Road, Asheville, North Carolina, up to 2:00 PM, March 7, 2012 for the furnishing of labor, material and equipment entering into the construction of the **Erwin High School E Wing Roof Replacement** at which time and place bids will be publicly opened and read.

A Single Prime bid for all work will be received. All proposals shall be lump sum.

Requirements adopted by the Buncombe County Board of Education for Minority Business Enterprises (MBE) will be part of this Project.

Complete plans and specifications in digital format for these projects can be obtained from Buncombe County Schools, Board of Education offices, 175 Bingham Road, Asheville, NC 28806, attention Mr. Ron Venturella, during normal office hours. Qualified Bidders may obtain a full set of digital plans and specification files in PDF format at no charge upon written request.

The Buncombe County Board of Education reserves the right to reject any or all bids for any or no reason, and to waive informalities.

A Pre-Bid Conference will be held at 9:00 AM, February 23, 2012, in the same place bids are received.

By:
The Buncombe County Board of Education
Bob Rhinehart, Chairman.

NOTICE TO BIDDERS

Sealed proposals will be received by the Buncombe County Board of Education in the Executive Conference Room of the Buncombe County Board of Education offices, 175 Bingham Road, Asheville, North Carolina up to 2:00 PM, March 7, 2012 and immediately thereafter publicly opened and read for the furnishing of labor, material and equipment entering into the construction of Erwin High School E Wing Roof Replacement, Asheville, North Carolina.

Bids will be received for single prime bid. All proposals shall be lump sum.

The Buncombe County Board of Education has adopted guidelines for establishing a verifiable percentage goal for participation by minority businesses in projects awarded pursuant to NC General Statute 143-128 (Suppl. 2001) with respect to the erection, construction, alteration or repair of any buildings when the entire cost of such works shall exceed \$300,000. Among other things, these guidelines provided that notification will be given to certain minority businesses of the projects. The Board's contact person on MBE requirements is Mr. Ron Venturella, Purchasing Officer, Buncombe County Schools, 175 Bingham Road, Asheville, North Carolina 28806.

Bidders who wish to mail their proposal shall address them to Mr. Ron Venturella Purchasing Officer, Buncombe County Schools, 175 Bingham Road, Asheville, North Carolina, 28806. To prevent accidental opening, mailed bids should be clearly marked on the mailer, "BID FOR ERWIN HIGH SCHOOL E WING ROOF REPLACEMENT. DO NOT OPEN UNTIL 2:00 P.M. March 7, 2012"

Complete Plans, Specifications and Contract Documents will be open for inspection in the office of the Owner. Digital plans and specifications will be provided to the plan rooms of the Associated General Contractors of America, Inc., in Asheville and Charlotte, North Carolina and Greenville, South Carolina; in the South Carolina plan rooms of McGraw-Hill Dodge Corporation; to the Eastern Regional Office of Reed Construction Data in Norcross, GA; to the offices of Knoxville Builders Exchange, Knoxville, TN; to the Asheville Business Development Center in Cherokee, NC; and to the Minority Plan Room of the Hispanic Contractors Association of the Carolinas (HCAC) in Charlotte.

Complete plans and specifications for these projects can be obtained from Buncombe County Schools, 175 Bingham Road, Asheville, NC 28806, by contacting Mr. Ron Venturella at (828) 255-5891 during normal office hours after February 8, 2012. Qualified Bidders may obtain a full set of digital plans and specification files in PDF format at no charge upon written request.

All bidders are hereby notified that they must have proper license as a General Contractor under the laws of the State of North Carolina and that the requirements of Chapter 87 of the General Statutes of North Carolina will be observed.

Bids shall include all taxes and, in particular, North Carolina and local sales and use taxes.

Each proposal shall be accompanied by a cash deposit or a certified check drawn on some bank or trust company, insured by the Federal Deposit Insurance Corporation, of an amount equal to not less than five percent (5%) of the proposal, or in lieu thereof a bidder may offer a bid bond of five percent (5%) of the bid executed by a surety company licensed under the laws of North Carolina to execute such bonds, conditioned that the Surety will, upon demand, forthwith make payment to the obliges upon said bond if the bidder fails to execute the contract in accordance with the bid bond. Said deposit shall be retained by the owner as liquidated damages in event of failure of the successful bidder to execute the contract within ten days after the award or to give satisfactory surety as required by law.

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

Payment will be made on the bases of ninety-five percent (95%) of monthly estimates and final payment made upon completion and acceptance of work.

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

The Buncombe County Board of Education reserves the right to reject any or all bids for any or no reason, and to

waive informalities.

Pre-Bid Conference:

A Pre-Bid Conference will be held at 9:00 AM on February 23, 2012 in the Executive Conference Room at The Buncombe County Board of Education, 175 Bingham Road, Asheville, North Carolina, 28806. The Conference is open to all Bidders and other interested parties.

By:
The Buncombe County Board of Education
Bob Rhinehart, Chairman.

AIA[®] Document A701[™] – 1997

Instructions to Bidders

for the following PROJECT:
(Name and location or address):

THE OWNER:
(Name and address):

THE ARCHITECT:
(Name and address):

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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.

ARTICLE 1 DEFINITIONS

§ 1.1 Bidding Documents include the Bidding 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.

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

§ 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.

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 and has correlated the Bidder's personal observations with the requirements of the proposed Contract Documents.

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

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 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.

§ 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.

§ 3.1.3 Bidders shall use complete sets of Bidding Documents in preparing Bids; neither the Owner nor Architect assumes responsibility for errors or misinterpretations resulting from the use of incomplete sets of Bidding Documents.

§ 3.1.4 The Owner and Architect may make 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 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, shall examine the site and local conditions, and shall at once report to the Architect errors, inconsistencies or ambiguities discovered.

§ 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 days prior to the date for receipt of Bids.

§ 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.

§ 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 will be considered after the Contract award unless specifically provided for in the Contract Documents.

§ 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 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 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.

ARTICLE 4 BIDDING PROCEDURES

§ 4.1 PREPARATION OF BIDS

§ 4.1.1 Bids shall be submitted on the forms included with the Bidding Documents.

§ 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.

§ 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."

§ 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.

§ 4.1.7 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 BID SECURITY

§ 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.

§ 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.

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

§ 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 envelope shall 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.

§ 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.

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

§ 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 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.

§ 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 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.

§ 5.2 REJECTION OF BIDS

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.

§ 5.3 ACCEPTANCE OF BID (AWARD)

§ 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.

§ 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.

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.

ARTICLE 7 PERFORMANCE BOND AND PAYMENT BOND

§ 7.1 BOND REQUIREMENTS

§ 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.

§ 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.

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.

SUPPLEMENTARY INSTRUCTIONS TO BIDDERS**A. GENERAL**

The following conditions modify, change, delete or add to the "Instructions to Bidder", AIA Document, A-701-1997. Where any portion of the Instructions to Bidders is modified or deleted by these supplements, the unaltered provisions of that portion shall remain in effect.

B. ARTICLE 1 - DEFINITIONS

Subparagraph 1.1 - Change the word "or" in the second sentence to the word "and". Add the words "bid bond, MBE forms," after the words "bid form" in the second sentence. Add the words "performance bond, payment bond, certificate of insurance" before the word "Drawings" in the third sentence.

C. ARTICLE 2 - BIDDER'S REPRESENTATIONS

Subparagraph 2.1.1 - Change the word "or" to "and" in the first line of the sentence.

D. ARTICLE 4 - BIDDING PROCEDURES

Subparagraph 4.1.6 - Delete in its entirety

Subparagraph 4.1.7 - Add the following:

All bonds executed in connection with the project must be executed by a Surety Company licensed to do business in the State of North Carolina and have the surety's corporate seal affixed. An attorney in fact who executes a bid bond on behalf of a surety shall affix to the bond a certified and current copy of the power of attorney.

Subparagraph 4.2.1 - Delete in its entirety.

Subparagraph 4.2.2 - Delete in its entirety.

Subparagraph 4.2.3 - Delete in its entirety.

Subparagraph 4.2.1 - Add a new subparagraph 4.2.1 as follows:

Each bid shall be accompanied at the time the bid is submitted by a cash deposit, cashier's check payable to the Owner, or a bid bond in the amount of 5% of the maximum amount of the contract sum (including the base bid and all add alternates) in compliance with N.C. Gen. Stat. § 143-129. **All bonds must be submitted on the forms included with the Bidding Documents. AIA DOCUMENT A-310 OR ANY SUCCESSOR IS NOT ACCEPTABLE.**

Subparagraph 4.3.1 - Delete in its entirety and add a new subparagraph 4.3.1 as follows:

BID SUBMITTAL AND OPENING PROCEDURES

All bids shall be made on the forms furnished by the Architect. Duplicate copies of the Form of Proposal and Bid Bond form are incorporated in the Project Manual. One copy of each of these bid documents (Form of Proposal and Bid

Bond form) is to be detached from the manual and the bid proposal made using the detached documents. Detachment will allow the Contractor (bidder) to retain the intact specifications in his possessions on the bid date. The Contractor (bidder) is cautioned that all spaces on the Form of Proposal must be fully completed, including all Alternates (Reference Article 4.1.5 of the Instructions to Bidders), and that the Form of Proposal must be properly signed with the names of the company, and its authorized representatives, a corporate seal affixed and shall be fully executed in all respects.

Bids shall be submitted in a two (2) envelope system. The outer envelope shall bear the project name which is Erwin High School E Wing Roof Replacement, and it shall be sealed and addressed to the Owner, The Buncombe County Board of Public Education, Asheville, North Carolina. The name, address, and license number of the bidder, as well as the type of contract shall also be shown on the outside. The outer envelopes of bids delivered by mail shall bear the name of the project and the following statement "DO NOT OPEN until (Time and date of Bid Opening)"

The outer envelopes shall contain the following:

1. Bid Security
 2. Certification of receipt of addenda, written on Contractor's letterhead.
 3. A sealed smaller envelope containing the proposal and marked on the outside, "PROPOSAL". This envelope should also contain the project name and the name, address and license number of the bidder. Attached to the proposal shall be:
 - a) Both MBE Form 1 – Identification of Minority Business Participation and MBE Affidavit A – Listing of Good Faith Efforts
- OR**
- b) MBE Form B – Intent to Perform Contract with Own Workforce.

Bids shall be received by the Owner or his representative at the place of and prior to the time for opening bids.

Bid opening procedures shall be observed as follows:

1. The bid openings will be open to all interested parties.
2. Bid tabulation forms will be prepared by the Architect and will be provided to all interested parties attending the bid opening. Forms will contain the names of the prospective bidders and blank spaces for recording the bidders license number, bid security, base bid and Alternates, if any. Spaces for unit prices will not be provided.
3. Approximately five (5) minutes prior to the designated time for receiving bids, the Architect or Owner will announce the "official time" that will be used in declaring the bidding closed.
4. At the designated time for receiving bids, the bidding will be declared closed and no bids will be accepted after the announced closing.

5. Modification of a bid will not be accepted unless it is delivered to the Owner and/or his representatives at the place of and prior to the time for opening bids. Such modification will only be accepted when it is in writing properly authorized by the bidder in the same manner as the proposal. The bidder shall provide a bid security in an amount sufficient to cover a bid price increase resulting from any modification(s).
6. After the announced bid closing, the Architect will proceed as follows:
 - When required by law, determine that at least three (3) bids (sealed envelopes) have been received. Should there not be three, bids will not be opened. The bids will be returned to the bidders and they will be requested to submit a bid proposal with a re-advertisement.
 - Inquire if any bidder desires any clarification of the plans and specifications.
 - Ask if anyone has any objections to proceeding with the opening of bids. If anyone objects to proceeding, the following alternatives will be followed:
 - Attempt to satisfy the objection or secure complete information as to the objection and proceed with opening of bids under protest for later disposition by the Board Attorney; or,
 - Rule the objection as informal and proceed with the opening of bids; or
 - Correct the Bid Tabulation form, adding or deleting bidders as circumstances require.
7. Since this is a public bid opening, the bids will be read aloud to the assembled group. The following order will be observed:
 - The outer envelopes of all bidders will be opened prior to reading any "Proposals". Prior to opening an outer envelope, the name of the bidder and license number or the bidder as it appears on the envelope will be announced to the assembled group.
 - With the opening of the bidders' outer envelope, a preliminary determination will be made that bid security and other required certifications are enclosed with the bid.
 - When the three (3) bid rule applies by law, if all of the required material is not with at least three (3) of the bids for a particular contract, the sealed envelopes marked "Proposal" will not be opened.
 - When the three (3) bid rule applies by law, if it is determined that the contents of at least three (3) of the outer envelopes appear to be in order, the sealed envelopes containing the bid proposals shall be opened and the bids read aloud without first making any further preliminary determination(s) as to the adequacy of bid security.

- The Owner reserves the right to reject any or all bids and to waive informalities and Board policies.

Subparagraph 4.4.1 - Change the period at the end of the sentence to a comma and add the following:

“, except as may be permitted by North Carolina General Statutes § 143-129.1.”

Subparagraph 4.4.2 - Delete in its entirety.

Subparagraph 4.4.3 - Delete in its entirety.

Subparagraph 4.4.4 - Delete in its entirety.

E. ARTICLE 5 - CONSIDERATION OF BIDS

Subparagraph 5.1 - Delete in its entirety.

Subparagraph 5.3.1 - Add the words “if the requirements of North Carolina General Statutes § 143-128, 143-129, and 143-132 have been met and” following the word “Bidder” in the first sentence.

F. ARTICLE 6 - POST-BID INFORMATION

Article 6.1 – Add the following to the end of the subparagraph: “Before awarding a contract, the Owner may require the apparent low bidder to qualify himself to be a responsible bidder by furnishing any or all of the following data:

- a. The latest financial statement showing assets and liabilities of the company information satisfactory to the Owner.
- b. A list of references for projects either in progress or that have been completed within the past twenty-four months.
- c. A description of projects which are in progress or which have been completed within the past five years which are similar in size or scope to the project under consideration.
- d. Permanent name and address of place of business.
- e. The number of regular employees of the organization and length of time the organization has been in business under present name.
- f. A detailed inventory of personnel and equipment proposed to be used on the project.
- g. A detailed resume of the resident job superintendent and project manager who will be responsible for the project.
- h. The name and home office address of the Surety proposed and the name and address of the responsible local claim agent.
- i. The names of members of the firms who hold appropriate trade licenses, together with license numbers.

- j. A list of pending or threatened lawsuits, including arbitrations, to which your company is a party.

Failure or refusal to furnish any of the above information, if requested, shall constitute a basis for disqualification of any bidder."

Article 6.2 - Delete in its entirety.

Article 6.3 - Delete in its entirety.

Article 6.3.1 - Add "and percentage of the total work under the contract" after "performed" in the first sentence.

Article 6.3.2 - Add "If requested by the Owner or Architect," to the beginning of the first sentence.

Article 6.3.3 - Delete the first sentence. Delete the words ", (1) withdraw the Bid or (2)" in the second sentence.

Article 6.3.4 - Delete the words "with the written consent of" from the sentence and add in their place "after written notice to".

G. ARTICLE 7 - PERFORMANCE BOND AND PAYMENT BOND

Subparagraph 7.1.1 - Delete in its entirety and add a new subparagraph 7.1.1 as follows:

"The bidder to whom the Contract is awarded shall furnish separate bonds in the amount of 100% if the contract price covering the faithful performance of the Contract and payment of all obligations thereunder." [Note: Architect and Owner must agree to waive this requirement if possible by law.]

Subparagraph 7.1.2 - Delete in its entirety and add a new subparagraph 7.1.2 as follows:

"The costs of the performance bond and the payment bond shall be included in the bid."

Subparagraph 7.1.3 - Delete in its entirety and add a new subparagraph 7.1.3 as follows:

"The performance bond and the payment bond shall be executed by a surety company licensed to do business in the State of North Carolina and have the Surety's corporate seal affixed. A North Carolina licensed registered agent of the surety shall either sign or countersign the bonds if they are executed by an attorney in fact. The provisions of North Carolina General Statutes Chapter 44A, Article 3 shall be complied with in the furnishing of performance bonds and payment bonds."

Subparagraph 7.2.1 - Delete subparagraph 7.2.1 in its entirety and add a new subparagraph 7.2.1 as follows:

"The bidder shall deliver the required Contract, certificate of insurance, performance bond, and payment bond within 10 days after notice of award."

Subparagraph 7.2.2 - Delete in its entirety and add a new subparagraph 7.2.2 as follows:

"The performance bond and payment bond must be submitted on the forms included with the Bidding Documents. AIA DOCUMENT A-312 OR ANY SUCCESSOR IS NOT ACCEPTABLE.

H. ARTICLE 8 – FORM OF AGREEMENT BETWEEN OWNER AND CONTRACTOR

Add the following language to the end of the paragraph: "The signature line shall include the phrase 'This Contract is intended to be a contract made under seal'."

END OF SUPPLEMENTARY INSTRUCTIONS TO BIDDERS

AIA[®] Document A201[™] – 1997

General Conditions of the Contract for Construction

for the following PROJECT:
(Name and location or address):

THE OWNER:
(Name and address):

THE ARCHITECT:
(Name and address):

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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.

This document has been approved and endorsed by The Associated General Contractors of America

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ARTICLE 1 GENERAL PROVISIONS

§ 1.1 BASIC DEFINITIONS

§ 1.1.1 THE CONTRACT DOCUMENTS

The Contract Documents consist of the Agreement between Owner and Contractor (hereinafter 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 other documents such as bidding requirements (advertisement or invitation to bid, Instructions to Bidders, sample forms, the Contractor's bid 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 Architect and Contractor, (2) between the Owner and a Subcontractor or Sub-subcontractor, (3) between the Owner and Architect or (4) between any persons or entities other than the Owner and 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 or 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 THE PROJECT MANUAL

The Project Manual is a volume assembled for the Work which may include the bidding requirements, sample forms, Conditions of the Contract and Specifications.

§ 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 which have well-known technical or construction industry meanings are used in the Contract Documents in accordance with such recognized meanings.

§ 1.3 CAPITALIZATION

§ 1.3.1 Terms capitalized in these General Conditions include those which 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

§ 1.4.1 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 EXECUTION OF CONTRACT DOCUMENTS

§ 1.5.1 The Contract Documents shall be signed by the Owner and Contractor. If either the Owner or Contractor or both do not sign all the Contract Documents, the Architect shall identify such unsigned Documents upon request.

§ 1.5.2 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.

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

§ 1.6.1 The Drawings, Specifications and other documents, including those in electronic form, prepared by the Architect and the Architect's consultants are Instruments of Service through which the Work to be executed by the Contractor is described. The Contractor may retain one record set. Neither the Contractor nor any Subcontractor, Sub-subcontractor or material or equipment supplier shall own or claim a copyright in the Drawings, Specifications and other documents prepared by the Architect or the Architect's consultants, and unless otherwise indicated the Architect and the Architect's consultants shall be deemed the authors of them and will retain all common law, statutory and other reserved rights, in addition to the copyrights. All copies of Instruments of Service, except the Contractor's record set, shall be returned or suitably accounted for to the Architect, on request, upon completion of the Work. The Drawings, Specifications and other documents prepared by the Architect and the Architect's consultants, and copies thereof furnished to the Contractor, are for use solely with respect to this Project. They are not to be used by the Contractor or any Subcontractor, Sub-subcontractor or material or equipment supplier 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. The Contractor, Subcontractors, Sub-subcontractors and material or equipment suppliers are authorized to use and reproduce applicable portions of the Drawings, Specifications and other documents prepared by the Architect and the Architect's consultants appropriate to and for use in the execution of their Work under the Contract Documents. All copies made under this authorization shall bear the statutory copyright notice, if any, shown on the Drawings, Specifications and other documents prepared by the Architect and the Architect's consultants. 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' copyrights or other reserved rights.

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 The Owner shall, at the written request of the Contractor, prior to commencement of the Work and thereafter, furnish to the Contractor reasonable evidence that financial arrangements have been made to fulfill the Owner's obligations under the Contract. Furnishing of such evidence shall be a condition precedent to commencement or

continuation of the Work. After such evidence has been furnished, the Owner shall not materially vary such financial arrangements without prior notice to the Contractor.

§ 2.2.2 Except for permits and fees, including those required under Section 3.7.1, which are the responsibility of the Contractor under the Contract Documents, 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 Information or services required of the Owner by the Contract Documents shall be furnished by the Owner with reasonable promptness. Any other information or services relevant to the Contractor's performance of the Work under the Owner's control shall be furnished by the Owner after receipt from the Contractor of a written request for such information or services.

§ 2.2.5 Unless otherwise provided in the Contract Documents, the Contractor will be furnished, free of charge, such copies of Drawings and Project Manuals as are reasonably necessary for execution of the Work.

§ 2.3 OWNER'S RIGHT TO STOP THE WORK

§ 2.3.1 If the Contractor fails to correct Work which is not in accordance with the requirements of the Contract Documents as required by Section 12.2 or persistently 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

§ 2.4.1 If the Contractor defaults or neglects to carry out the Work in accordance with the Contract Documents and fails within a seven-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 after such seven-day period give the Contractor a second written notice to correct such deficiencies within a three-day period. If the Contractor within such three-day period after receipt of such second notice fails to commence and continue to correct any deficiencies, 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 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 other than the Contractor.

§ 3.2 REVIEW OF CONTRACT DOCUMENTS AND FIELD CONDITIONS BY CONTRACTOR

§ 3.2.1 Since the Contract Documents are complementary, before starting each portion of the Work, the Contractor shall carefully study and compare the various Drawings and other 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 construction by the Contractor and are not for the purpose of discovering errors, omissions, or inconsistencies in the Contract Documents; however, any errors, inconsistencies or omissions discovered by the Contractor shall be reported promptly to the Architect as a request for information in such form as the Architect may require.

§ 3.2.2 Any design errors or omissions noted by the Contractor during this review shall be reported promptly to the Architect, but 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. The Contractor is not required to ascertain that the Contract Documents are in accordance with applicable laws, statutes, ordinances, building codes, and rules and regulations, but any nonconformity discovered by or made known to the Contractor shall be reported promptly to the Architect.

§ 3.2.3 If the Contractor believes that additional cost or time is involved because of clarifications or instructions issued by the Architect in response to the Contractor's notices or requests for information pursuant to Sections 3.2.1 and 3.2.2, the Contractor shall make Claims as provided in Sections 4.3.6 and 4.3.7. If the Contractor fails to perform the obligations of Sections 3.2.1 and 3.2.2, the Contractor shall pay such costs and damages to the Owner as would have been avoided if the Contractor had performed such obligations. The Contractor shall not be liable to the Owner or Architect for damages resulting from errors, inconsistencies or omissions in the Contract Documents or for differences between field measurements or conditions and the Contract Documents unless the Contractor recognized such error, inconsistency, omission or difference and knowingly failed to report it to the Architect.

§ 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 resulting loss or damage.

§ 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 The Contractor may make substitutions only with the consent of the Owner, after evaluation by the Architect and in accordance with a Change Order.

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

§ 3.5 WARRANTY

§ 3.5.1 The Contractor warrants to the Owner and Architect that materials and equipment furnished under the Contract will be of good quality and new unless otherwise required or permitted by the Contract Documents, that the Work will be free from defects not inherent in the quality required or permitted, and that the Work will conform to the requirements of the Contract Documents. Work not conforming to these requirements, including substitutions not properly approved and authorized, may be considered defective. The Contractor's warranty excludes remedy for damage or defect caused by abuse, modifications 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

§ 3.6.1 The Contractor shall pay sales, consumer, use and similar taxes for the Work provided by the Contractor which 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 AND NOTICES

§ 3.7.1 Unless otherwise provided in the Contract Documents, the Contractor shall secure and pay for the building permit and other permits and governmental fees, licenses and inspections necessary for proper execution and completion of the Work which are customarily secured after execution of the Contract and which are legally required when bids are received or negotiations concluded.

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

§ 3.7.3 It is not the Contractor's responsibility to ascertain that the Contract Documents are in accordance with applicable laws, statutes, ordinances, building codes, and rules and regulations. However, if the Contractor observes that portions of the Contract Documents are at variance therewith, the Contractor shall promptly notify the Architect and Owner in writing, and necessary changes shall be accomplished by appropriate Modification.

§ 3.7.4 If the Contractor performs Work knowing it to be contrary to laws, statutes, ordinances, building codes, and rules and regulations without such notice to the Architect and Owner, the Contractor shall assume appropriate responsibility for such Work and shall bear the costs attributable to correction.

§ 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;
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 in sufficient time to avoid delay in the Work.

§ 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. Important

communications shall be confirmed in writing. Other communications shall be similarly confirmed on written request in each case.

§ 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 and keep current, for the Architect's approval, a schedule of submittals which is coordinated with the Contractor's construction schedule and allows the Architect reasonable time to review 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

§ 3.11.1 The Contractor shall maintain at the site for the Owner one record copy of the Drawings, Specifications, Addenda, Change Orders and other Modifications, in good order and marked currently to record field changes and selections made during construction, and one record 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.

§ 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 which 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. The purpose of their submittal is to demonstrate for those portions of the Work for which submittals are required by the Contract Documents the way by which the Contractor proposes to conform to the information given and the design concept expressed in the Contract Documents. 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 which 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 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. Submittals which are not marked as reviewed for compliance with the Contract Documents and approved by the Contractor may be returned by the Architect without action.

§ 3.12.6 By approving and submitting Shop Drawings, Product Data, Samples and similar submittals, the Contractor represents that the Contractor has determined and verified materials, field measurements and field construction criteria related thereto, or will do so, and has 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 which 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 completeness of the services, certifications or approvals performed 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 or design criteria required by the Contract Documents.

§ 3.13 USE OF SITE

§ 3.13.1 The Contractor shall confine operations at the site to areas permitted by law, ordinances, permits 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.

§ 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 from and about the Project waste materials, rubbish, the Contractor's tools, construction equipment, machinery and surplus materials.

§ 3.15.2 If the Contractor fails to clean up as provided in the Contract Documents, the Owner may do so and the cost thereof shall be charged to the Contractor.

§ 3.16 ACCESS TO WORK

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

§ 3.17 ROYALTIES, PATENTS AND COPYRIGHTS

§ 3.17.1 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 and to the extent claims, damages, losses or expenses are not covered by Project Management Protective Liability insurance purchased by the Contractor in accordance with Section 11.3, 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 ADMINISTRATION OF THE CONTRACT

§ 4.1 ARCHITECT

§ 4.1.1 The Architect is the person lawfully licensed to practice architecture or an entity lawfully practicing architecture identified as such in the Agreement and is referred to throughout the Contract Documents as if singular in number. The term "Architect" means the Architect or the Architect's authorized representative.

§ 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 new Architect against whom the Contractor has no reasonable objection and whose status under the Contract Documents shall be that of the former Architect.

§ 4.2 ARCHITECT'S 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 (1) during construction, (2) until final payment is due and (3) with the Owner's concurrence, from time to time during the one-year period for correction of Work described in Section 12.2. The Architect will have authority to act on behalf of the Owner only to the extent provided in the Contract Documents, unless otherwise modified in writing in accordance with other provisions of the Contract.

§ 4.2.2 The Architect, as a representative of the Owner, will visit the site at intervals appropriate to the stage of the Contractor's operations (1) to become generally familiar with and to keep the Owner informed about the progress and quality of the portion of the Work completed, (2) to endeavor to guard the Owner against defects and

deficiencies in the Work, and (3) to determine in general if the Work 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 neither have control over or charge of, nor be responsible 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 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 will have 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 with such reasonable promptness as to cause no delay in the Work or in the activities of the Owner, Contractor or separate contractors, 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.

§ 4.2.9 The Architect will conduct inspections to determine the date or dates of Substantial Completion and the date of final completion, will 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, and will issue a final Certificate for Payment upon compliance with the requirements of the Contract Documents.

§ 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. If no agreement is made concerning the time within which interpretations required of the Architect shall be furnished in compliance with this Section 4.2, then delay shall not be recognized on account of failure by the Architect to furnish such interpretations until 15 days after written request is made for them.

§ 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 initial 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 so 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.

§ 4.3 CLAIMS AND DISPUTES

§ 4.3.1 Definition. A Claim is a demand or assertion by one of the parties seeking, as a matter of right, adjustment or interpretation of Contract terms, payment of money, extension of time 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. Claims must be initiated by written notice. The responsibility to substantiate Claims shall rest with the party making the Claim.

§ 4.3.2 Time Limits on Claims. 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. Claims must be initiated by written notice to the Architect and the other party.

§ 4.3.3 Continuing Contract Performance. Pending final resolution of a Claim except as otherwise agreed in writing or as provided in Section 9.7.1 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.

§ 4.3.4 Claims for Concealed or Unknown Conditions. If conditions are encountered at the site which are (1) subsurface or otherwise concealed physical conditions which differ materially from those indicated in the Contract Documents or (2) unknown physical conditions of an unusual nature, which 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, then notice by the observing party shall be given to the other party promptly 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 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 so notify the Owner and Contractor in writing, stating the reasons. Claims by either party in opposition to such determination must be made within 21 days after the Architect has given notice of the decision. If the conditions encountered are materially different, the Contract Sum and Contract Time shall be equitably adjusted, but if the Owner and Contractor cannot agree on an adjustment in the Contract Sum or Contract Time, the adjustment shall be referred to the Architect for initial determination, subject to further proceedings pursuant to Section 4.4.

§ 4.3.5 Claims for Additional Cost. If the Contractor wishes to make 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 10.6.

§ 4.3.6 If the Contractor believes additional cost is involved for reasons including but not limited to (1) a written interpretation from the Architect, (2) an order by the Owner to stop the Work where the Contractor was not at fault, (3) a written order for a minor change in the Work issued by the Architect, (4) failure of payment by the Owner, (5) termination of the Contract by the Owner, (6) Owner's suspension or (7) other reasonable grounds, Claim shall be filed in accordance with this Section 4.3.

§ 4.3.7 Claims for Additional Time

§ 4.3.7.1 If the Contractor wishes to make 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.

§ 4.3.7.2 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.

§ 4.3.8 Injury or Damage to Person or Property. If either party to the Contract 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.

§ 4.3.9 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.

§ 4.3.10 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 4.3.10 shall be deemed to preclude an award of liquidated direct damages, when applicable, in accordance with the requirements of the Contract Documents.

§ 4.4 RESOLUTION OF CLAIMS AND DISPUTES

§ 4.4.1 Decision of Architect. Claims, including those alleging an error or omission by the Architect but excluding those arising under Sections 10.3 through 10.5, shall be referred initially to the Architect for decision. An initial decision by the Architect shall be required as a condition precedent to mediation, arbitration or litigation of all Claims between the Contractor and Owner arising prior to the date final payment is due, unless 30 days have passed after the Claim has been referred to the Architect with no decision having been rendered by the Architect. The Architect will not decide disputes between the Contractor and persons or entities other than the Owner.

§ 4.4.2 The Architect will review Claims and within ten days of the receipt of the 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 Architect is unable to resolve the Claim if the Architect lacks sufficient information to evaluate the merits of the Claim or if the Architect concludes that, in the Architect's sole discretion, it would be inappropriate for the Architect to resolve the Claim.

§ 4.4.3 In evaluating Claims, the Architect 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 Architect in rendering a decision. The Architect may request the Owner to authorize retention of such persons at the Owner's expense.

§ 4.4.4 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 provide a response on the requested supporting data, advise the Architect when the response or supporting data will be furnished or advise the Architect that no supporting data will be furnished. Upon receipt of the response or supporting data, if any, the Architect will either reject or approve the Claim in whole or in part.

§ 4.4.5 The Architect will approve or reject Claims by written decision, which shall state the reasons therefor and which shall notify the parties of any change in the Contract Sum or Contract Time or both. The approval or rejection of a Claim by the Architect shall be final and binding on the parties but subject to mediation and arbitration.

§ 4.4.6 When a written decision of the Architect states that (1) the decision is final but subject to mediation and arbitration and (2) a demand for arbitration of a Claim covered by such decision must be made within 30 days after the date on which the party making the demand receives the final written decision, then failure to demand arbitration within said 30 days' period shall result in the Architect's decision becoming final and binding upon the Owner and Contractor. If the Architect renders a decision after arbitration proceedings have been initiated, such decision may be entered as evidence, but shall not supersede arbitration proceedings unless the decision is acceptable to all parties concerned.

§ 4.4.7 Upon receipt of a Claim against the Contractor or at any time thereafter, the Architect or 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 Architect or the Owner may, but is not obligated to, notify the surety and request the surety's assistance in resolving the controversy.

§ 4.4.8 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 prior to resolution of the Claim by the Architect, by mediation or by arbitration.

§ 4.5 MEDIATION

§ 4.5.1 Any Claim arising out of or related to the Contract, except Claims relating to aesthetic effect and except those waived as provided for in Sections 4.3.10, 9.10.4 and 9.10.5 shall, after initial decision by the Architect or 30 days after submission of the Claim to the Architect, be subject to mediation as a condition precedent to arbitration or the institution of legal or equitable proceedings by either party.

§ 4.5.2 The parties shall endeavor to resolve their Claims by mediation which, unless the parties mutually agree otherwise, shall be in accordance with the Construction Industry Mediation Rules of the American Arbitration Association currently in effect. Request for mediation shall be filed in writing with the other party to the Contract and with the American Arbitration Association. The request may be made concurrently with the filing of a demand for arbitration but, in such event, mediation shall proceed in advance of arbitration or legal or equitable 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.

§ 4.5.3 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.

§ 4.6 ARBITRATION

§ 4.6.1 Any Claim arising out of or related to the Contract, except Claims relating to aesthetic effect and except those waived as provided for in Sections 4.3.10, 9.10.4 and 9.10.5, shall, after decision by the Architect or 30 days after submission of the Claim to the Architect, be subject to arbitration. Prior to arbitration, the parties shall endeavor to resolve disputes by mediation in accordance with the provisions of Section 4.5.

§ 4.6.2 Claims not resolved by mediation shall be decided by arbitration which, unless the parties mutually agree otherwise, shall be in accordance with the Construction Industry Arbitration Rules of the American Arbitration Association currently in effect. The demand for arbitration shall be filed in writing with the other party to the Contract and with the American Arbitration Association, and a copy shall be filed with the Architect.

§ 4.6.3 A demand for arbitration shall be made within the time limits specified in Sections 4.4.6 and 4.6.1 as applicable, and in other cases within a reasonable time after the Claim has arisen, and in no event shall it be made after the date when institution of legal or equitable proceedings based on such Claim would be barred by the applicable statute of limitations as determined pursuant to Section 13.7.

§ 4.6.4 Limitation on Consolidation or Joinder. No arbitration arising out of or relating to the Contract shall include, by consolidation or joinder or in any other manner, the Architect, the Architect's employees or consultants, except by written consent containing specific reference to the Agreement and signed by the Architect, Owner, Contractor and any other person or entity sought to be joined. No arbitration shall include, by consolidation or joinder or in any other manner, parties other than the Owner, Contractor, a separate contractor as described in Article 6 and other persons substantially involved in a common question of fact or law whose presence is required if complete relief is to be accorded in arbitration. No person or entity other than the Owner, Contractor or a separate contractor as described in Article 6 shall be included as an original third party or additional third party to an arbitration whose interest or responsibility is insubstantial. Consent to arbitration involving an additional person or entity shall not constitute consent to arbitration of a Claim not described therein or with a person or entity not named or described therein. 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.

§ 4.6.5 Claims and Timely Assertion of Claims. 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.

§ 4.6.6 Judgment on Final Award. 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.

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 will promptly reply to the Contractor in writing stating whether or not the Owner or the Architect, after due investigation, has reasonable objection to any such proposed person or entity. Failure of the Owner or Architect to reply promptly 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 change a Subcontractor, person or entity previously selected if the Owner or Architect makes reasonable objection to such substitute.

§ 5.3 SUBCONTRACTUAL RELATIONS

§ 5.3.1 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 which 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 which 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.

§ 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.

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 Section 4.3.

§ 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 when directed to do so. 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 which 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 Owner shall be reimbursed by the Contractor for costs incurred by the Owner which are payable to a separate contractor because of delays, improperly timed activities or defective construction of the Contractor. The Owner shall be responsible to the Contractor for costs incurred by the Contractor because of delays, improperly timed activities, damage to the Work or defective construction of a separate contractor.

§ 6.2.4 The Contractor shall promptly remedy damage wrongfully caused by the Contractor 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

§ 6.3.1 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 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.

§ 7.2.2 Methods used in determining adjustments to the Contract Sum may include those listed in Section 7.3.3.

§ 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 7.3.6.

§ 7.3.4 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.

§ 7.3.5 A Construction Change Directive signed by the Contractor indicates the agreement of the Contractor 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.

§ 7.3.6 If the Contractor does not respond promptly or disagrees with the method for adjustment in the Contract Sum, the method and the adjustment shall be determined by the Architect 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, a reasonable allowance for overhead and profit. 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 7.3.6 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.

§ 7.3.7 The amount of credit to be allowed by the Contractor to the Owner for a deletion or change which 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.

§ 7.3.8 Pending final determination of the total cost of a Construction Change Directive to the Owner, amounts not in dispute for such changes in the Work shall be included in Applications for Payment accompanied by a Change Order indicating the parties' agreement with part or all of such costs. For any portion of such cost that remains in dispute, the Architect will make an interim determination for purposes of monthly certification for payment for those costs. That 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 4.

§ 7.3.9 When the Owner and Contractor agree with the 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 shall be recorded by preparation and execution of an appropriate Change Order.

§ 7.4 MINOR CHANGES IN THE WORK

§ 7.4.1 The Architect will have 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 shall be effected by written order and shall be binding on the Owner and Contractor. The Contractor shall carry out such written orders promptly.

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. Unless the date of commencement is established by the Contract Documents or a notice to proceed given by the Owner, the Contractor shall notify the Owner in writing not less than five days or other agreed period before commencing the Work to permit the timely filing of mortgages, mechanic's liens and other security interests.

§ 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 which 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 Section 4.3.

§ 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

§ 9.1.1 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

§ 9.2.1 Before the first Application for Payment, the Contractor shall submit to the Architect a schedule of values allocated to various portions of the Work, 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 for operations completed in accordance with the schedule of values. 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 reflecting retainage if provided for in the Contract Documents.

§ 9.3.1.1 As provided in Section 7.3.8, such applications may include requests for payment on account of changes in the Work which 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 Such applications may not include requests for payment for portions of the Work for which the Contractor does not intend to pay to 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 be made on account of materials and equipment delivered and suitably stored at the site for subsequent incorporation in the Work. If approved in advance by the Owner, payment may 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 the Work has progressed to the point indicated and that, to the best of the Architect's knowledge, information and belief, 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 another 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 persistent 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.

§ 9.6 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 promptly pay each Subcontractor, upon receipt of payment from the Owner, out of the amount paid to the Contractor on account of such Subcontractor's portion of the Work, the amount to which said Subcontractor is entitled, reflecting percentages actually retained from payments to the Contractor on account of such 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 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 Payment to material 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

§ 9.7.1 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 arbitration, 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 which 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 11.4.1.5 and authorized by public authorities having jurisdiction over the Work. 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 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

§ 10.1.1 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 give notices and comply with applicable laws, ordinances, rules, 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 load or permit any part of the construction or site to be loaded so as to endanger its safety.

§ 10.3 HAZARDOUS MATERIALS

§ 10.3.1 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 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 verify that it has been 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. 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, which adjustments shall be accomplished as provided in Article 7.

§ 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) and provided that such damage, loss or expense is not due to the sole negligence of a party seeking indemnity.

§ 10.4 The Owner shall not be responsible under Section 10.3 for materials and substances brought to the site by the Contractor unless such materials or substances were required by the Contract Documents.

§ 10.5 If, without negligence on the part of the Contractor, the Contractor is held liable 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.

§ 10.6 EMERGENCIES

§ 10.6.1 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 Section 4.3 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 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 which 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 date of commencement of the Work until date of final payment and termination of any coverage required to be maintained after final payment.

§ 11.1.3 Certificates of insurance acceptable to the Owner shall be filed with the Owner prior to commencement of the Work. 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. If any of the foregoing insurance coverages are required to remain in force after final payment and are reasonably available, an additional certificate evidencing continuation of such coverage shall be submitted with the final Application for Payment as required by Section 9.10.2. 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 in accordance with the Contractor's information and belief.

§ 11.2 OWNER'S LIABILITY INSURANCE

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

§ 11.3 PROJECT MANAGEMENT PROTECTIVE LIABILITY INSURANCE

§ 11.3.1 Optionally, the Owner may require the Contractor to purchase and maintain Project Management Protective Liability insurance from the Contractor's usual sources as primary coverage for the Owner's, Contractor's and Architect's vicarious liability for construction operations under the Contract. Unless otherwise required by the Contract Documents, the Owner shall reimburse the Contractor by increasing the Contract Sum to pay the cost of purchasing and maintaining such optional insurance coverage, and the Contractor shall not be responsible for purchasing any other liability insurance on behalf of the Owner. The minimum limits of liability purchased with such coverage shall be equal to the aggregate of the limits required for Contractor's Liability Insurance under Sections 11.1.1.2 through 11.1.1.5.

§ 11.3.2 To the extent damages are covered by Project Management Protective Liability insurance, the Owner, Contractor and Architect waive all rights against each other for damages, except such rights as they may have to the proceeds of such insurance. The policy shall provide for such waivers of subrogation by endorsement or otherwise.

§ 11.3.3 The Owner shall not require the Contractor to include the Owner, Architect or other persons or entities as additional insureds on the Contractor's Liability Insurance coverage under Section 11.1.

§ 11.4 PROPERTY INSURANCE

§ 11.4.1 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 11.4 to be covered, whichever is later. This insurance shall include interests of the Owner, the Contractor, Subcontractors and Sub-subcontractors in the Project.

§ 11.4.1.1 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.

§ 11.4.1.2 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 which 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.

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

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

§ 11.4.1.5 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.

§ 11.4.2 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.

§ 11.4.3 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.

§ 11.4.4 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.

§ 11.4.5 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 11.4.7 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.

§ 11.4.6 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 11.4. 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.

§ 11.4.7 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 11.4 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.

§ 11.4.8 A loss insured under 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 11.4.10. 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.

§ 11.4.9 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 in accordance with an arbitration award in which case the procedure shall be as provided in Section 4.6. 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.

§ 11.4.10 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 as provided in Sections 4.5 and 4.6. The Owner as fiduciary shall, in the case of arbitration, make settlement with insurers in accordance with directions of the arbitrators. If distribution of insurance proceeds by arbitration is required, the arbitrators will direct such distribution.

§ 11.5 PERFORMANCE BOND AND PAYMENT BOND

§ 11.5.1 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.

§ 11.5.2 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 permit a copy to be made.

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 required 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 which 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, 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

§ 12.2.1.1 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 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 performance 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 which 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 which 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 which the Contractor might have 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

§ 12.3.1 If the Owner prefers to accept Work which 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

§ 13.1.1 The Contract shall be governed by the law of the place where the Project is located.

§ 13.2 SUCCESSORS AND ASSIGNS

§ 13.2.1 The Owner and Contractor respectively bind themselves, their partners, successors, assigns and legal representatives to the other party hereto and to partners, successors, assigns and legal representatives of such other party in respect 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 an institutional lender providing construction financing for the Project. In such event, the lender shall assume 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

§ 13.3.1 Written notice shall be deemed to have been duly served if delivered in person to the individual or 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 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 thereunder, 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 required by the Contract Documents or by laws, ordinances, rules, regulations or orders of public authorities having jurisdiction shall be made at an appropriate time. 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 tests, inspections or approvals which do not become requirements until after bids are received or negotiations concluded.

§ 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

§ 13.6.1 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 COMMENCEMENT OF STATUTORY LIMITATION PERIOD

§ 13.7.1 As between the Owner and Contractor:

- .1 Before Substantial Completion. As to acts or failures to act occurring prior to the relevant date of Substantial Completion, any applicable statute of limitations shall commence to run and any alleged cause of action shall be deemed to have accrued in any and all events not later than such date of Substantial Completion;
- .2 Between Substantial Completion and Final Certificate for Payment. As to acts or failures to act occurring subsequent to the relevant date of Substantial Completion and prior to issuance of the final Certificate for Payment, any applicable statute of limitations shall commence to run and any alleged cause of action shall be deemed to have accrued in any and all events not later than the date of issuance of the final Certificate for Payment; and
- .3 After Final Certificate for Payment. As to acts or failures to act occurring after the relevant date of issuance of the final Certificate for Payment, any applicable statute of limitations shall commence to run and any alleged cause of action shall be deemed to have accrued in any and all events not later than the date of any act or failure to act by the Contractor pursuant to any Warranty provided under Section 3.5, the date of any correction of the Work or failure to correct the Work by the Contractor under Section 12.2, or the date of actual commission of any other act or failure to perform any duty or obligation by the Contractor or Owner, whichever occurs last.

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 which requires all Work to be stopped;
- .2 an act of government, such as a declaration of national emergency which 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 and for proven loss with respect to materials, equipment, tools, and construction equipment and machinery, including reasonable overhead, profit 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 persistently 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 persistently or 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 persistently disregards laws, ordinances, or rules, regulations or orders of a public authority having jurisdiction; 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 Architect 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 take possession of the site and 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 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 Architect, 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.

**SUPPLEMENTARY GENERAL CONDITIONS
BUNCOMBE COUNTY BOARD OF EDUCATION**

A. GENERAL

The following conditions modify, change, delete, or add to the contract document entitled "General Conditions of the Contract for Construction," AIA Document A-201-1997, which constitutes a part of the construction documents. Where any portion of the General Conditions is modified or deleted by these supplements, the unaltered provisions of that portion shall remain in effect.

B. ARTICLE 1 - GENERAL PROVISIONS

Subparagraph 1.1.1 – Delete the last sentence and add the following to the end of the subparagraph:

"The Contract Documents shall also include:

1. Performance Bond - form as provided in the Project Manual.
2. Payment Bond - form as provided in the Project Manual.
3. Advertisement for bids.
4. Invitation to bid.
5. Instruction to Bidders.
6. Supplementary Instructions to Bidders.
7. Forms - as provided in the Project Manual.
8. The Contractor's Proposal (bid).
9. Addenda in their entirety."

Subparagraph 1.1.2 - Delete the last two sentences.

Subparagraph 1.2.4 - Add a new subparagraph 1.2.4 as follows:

"In the event of discrepancies or disagreements between Contract Documents, the order of precedence shall be as follows:

1. Agreement between Owner and Contractor
2. Modifications defined in Subparagraph 1.1.1
3. Addenda
4. Supplementary Conditions
5. General Conditions
6. Specifications
7. Drawings
8. As between schedules and information given on the drawings, the schedules shall govern.
9. As between schedules, information given on the drawings, and scaled measurements, the measurements shall govern.
10. As between large scale drawings and small scale drawings, the larger scale shall govern.

Paragraph 1.6 - Delete in its entirety.

C. ARTICLE 2 - OWNER

Subparagraph 2.1.2 - Delete in its entirety.

Subparagraph 2.2.1 - Delete in its entirety

Subparagraph 2.2.3 - Delete the second sentence and add the following to the end of the subparagraph: "Information furnished by the Owner relating to surveys, subsurface

investigations, soil borings and other information of a similar nature is for general information only and is not part of the Contract Documents. The Owner does not guarantee the completeness or accuracy of such information unless specifically noted otherwise. The information furnished by the Owner shall not abrogate the Contractor's responsibility to verify existing grade elevations, conditions and dimensions of existing structures and features at the Project site to the Contractor's satisfaction, and the Contractor shall report in writing to the Owner through the Architect any errors or inconsistencies found. The Contractor shall establish all lines and levels required to properly execute the Work, and shall pay for all costs to establish them, and shall be responsible for their maintenance and accuracy. The Contractor shall coordinate the Work with the Architect regarding the recommendations set forth in any Owner furnished information, particularly where excavation of unsuitable soils and replacement of fill materials are described, if any, which may be required for the proper and complete installation of the Work."

Subparagraph 2.3.1 - In the second line, delete the word "persistently" and in the last line delete the words ", except to the extent required by subparagraph 6.1.3."

D. ARTICLE 3 - CONTRACTOR

Subparagraph 3.1.3 - Add the following to the end of the subparagraph: ", including the Owner".

Subparagraph 3.1.4 - Add a new subparagraph 3.1.4 as follows: "In all cases the General Contractor shall serve as the Project Expediter. The Project Expediter shall coordinate the Work of all Contractors, subcontractors, service and material suppliers, utilities providers, and machinery and equipment suppliers for the entire Project, including the scheduling and sequencing of the Work and control of site utilization. All Contractors, subcontractors, service and material suppliers, utilities providers, and machinery and equipment suppliers shall fully cooperate with the Project Expediter and abide by its directions. Notwithstanding the appointment of the General Contractor as Project Expediter, the General Contractor shall comply with all requirements of a "Contractor" as set forth in the Contract Documents."

Subparagraph 3.2.1 - Delete in its entirety and add a new subparagraph 3.2.1 as follows: "The Contractor shall carefully study and compare the Contract Documents with each other and with information furnished by the Owner pursuant to Subparagraph 2.2.3 and shall at once report to the Architect design or other errors, inconsistencies or omissions discovered. If the Contractor performs any construction activity knowing it involves a recognized error, inconsistency or omission in the Contract Documents without such notice to the Architect, the Contractor shall assume full responsibility for such performance and shall bear the appropriate amount of the attributable costs for correction and any related damages suffered by the Owner."

Subparagraph 3.2.2 - Delete in its entirety and add a new subparagraph 3.2.2 as follows: "The Contractor shall assume full responsibility for accuracy of measurements obtained at the site. No extra compensation will be allowed because of differences between actual measurements and dimensions indicated on the Drawings, nor for the Contractor's failure to coordinate Work with actual field measurements. The Contractor shall, therefore, satisfy itself as to the accuracy of all grades, elevations, dimensions, and locations. In all cases of interconnection of its Work with existing or other Work, it shall verify at the site all dimensions relating to such existing or other Work. Any errors due to the Contractor's failure to so verify all such grades, elevations, locations or dimensions shall be promptly rectified by the Contractor without any additional cost to the Owner."

Subparagraph 3.2.3 - Delete in its entirety.

Subparagraph 3.3.1 - Delete the last sentence.

Subparagraph 3.4.3 - Add the following sentence to the end of the subparagraph: "The Architect and Owner reserve the right to require that the Contractor remove from the Project any employee whose actions are deemed by either of them to be detrimental to the Project."

Subparagraph 3.4.4 - Add a new subparagraph 3.4.4 as follows: "Normal working hours shall be eight hours per day, Monday through Friday. All Prime Contractors shall work the hours established by the General Contractor. Individual Prime Contractors will not be permitted to establish their own normal working hours (such as 10 hours per day, four days per week) without written consent of the General Contractor and the Architect and without additional compensation."

Subparagraph 3.5.1 – Add a phrase at the beginning of the first sentence as follows: "For the time period allowed by N.C.G.S. ' 1-50(a)(5), or its successor,". Delete the following words in lines three and four: "not inherent in the quality required or permitted".

Subparagraph 3.5.2 - Add a new subparagraph 3.5.2 as follows: "If, within any warranty period, repairs or changes are required in connection with warranted work, the Contractor shall promptly, upon receipt of notice from the Owner and without expense to the Owner:

1. Place in satisfactory condition in every particular all of such warranted Work and correct all defects therein;
2. Make good all damages to the buildings, sites, or equipment and contents, thereof, which, in the opinion of the Architect, are the result of the use of materials, equipment or workmanship which are inferior, defective or not in accordance with the Contract Documents;
3. Make good any work, materials, equipment, and contents of said buildings or sites which may have been disturbed in fulfilling any such warranty; and
4. Reimburse the Owner for all related costs and expenses, including attorneys' fees and fees of experts hired to investigate a warranty claim.

In any case wherein fulfilling the requirements of the Contract Documents or any warranty embraced in or required thereby, the Contractor disturbs any Work warranted under another Contract, it shall restore such disturbed Work to a condition satisfactory to the Owner, and it shall warrant such restored Work to the same extent as it was warranted under such other Contract.

If the Contractor, after notice, fails to proceed within seven (7) days to comply with the terms of this warranty, the Owner may have the defects corrected, and the Contractor and its surety shall be liable for all reasonable costs and expenses incurred.

The Contractor shall defend and save the Owner harmless against any claim, demand, loss or damage arising from any breach of this warranty by the Contractor.

This Subparagraph 3.5.2 is in addition to, and not in limitation of, any other warranties, rights, or remedies to which the Owner may be entitled."

Subparagraph 3.5.3 – Add a new subparagraph 3.5.3 as follows: "The Contractor agrees to deliver to and assign to the Owner following Substantial Completion, but no later than at the time of final completion of the Work, any and all manufacturer's warranties relating

to materials (including specific materials, machinery, systems, processes or equipment) and labor used in the Work and further agrees to perform the Work in such manner so as to preserve any and all such manufacturer's warranties."

Subparagraph 3.5.4 – Add a new subparagraph 3.5.4 as follows: "The Contractor shall further guarantee for a period of twenty-four (24) months that the building shall be watertight and leak free at every point and in every area. Contractor shall, immediately upon notification by the Owner of water penetration, determine the source of water penetration, and at Contractor's own expense, do any Work necessary to make the building watertight. Contractor shall also, at its own expense, repair or replace any other damaged material to return the building to its original accepted condition. The twenty-four (24) month period shall run from the later of the Contractor's last act or omission giving rise to a cause of action under this warranty or Substantial Completion of the Project."

Subparagraph 3.6.1 - Delete in its entirety and add a new subparagraph 3.6.1 as follows: "The Contractor shall pay all applicable taxes, including but not limited to sales, consumer, use and similar taxes for the Work."

Subparagraph 3.6.2 – Add a new subparagraph 3.6.2 as follows: "Each Contractor shall submit with its monthly Certification and Application for Payment a notarized certification of the sales tax payments made under its Contract and payments on its subcontracts made for all taxable materials installed and stored at the Project for the pay period."

Subparagraph 3.7.1 - Add the following to the end of the subparagraph: "If the Contractor disposes of or is required to dispose of materials from demolition, construction waste, excess dirt, rock and other materials, the Contractor shall pay all fees associated with disposal. All connection charges, assessments or inspection fees as may be imposed by any agency or utility company are included in the Contract Sum and shall be the Contractor's responsibility."

Subparagraph 3.7.2 - Add the words "building codes," to the first sentence after the word "by".

Subparagraph 3.7.3 - Delete in its entirety.

Subparagraph 3.7.4 - Delete the words "knowing it to be" in the first line, substitute the word "full" for the word "appropriate" in the third line, and delete the words "attributable to correction" in the last line.

Subparagraph 3.7.5 – Add a new subparagraph 3.7.5 as follows: "In connection with the General Building, Plumbing, HVAC and Electrical Contracts (or subcontracts subassigned to the Single Prime Contractor), the Contractor shall provide the Owner through the Architect copies of inspection reports performed by the local building inspection department."

Subparagraph 3.9.2 - Add a new subparagraph 3.9.2 as follows: "The Contractor shall submit, prior to starting work on the Project, a resume of the superintendents to be employed on the Project. Assignments of superintendents shall be subject to approval by the Architect and Owner. Each Contractor shall assign one superintendent minimum for each site included in its Contract."

Subparagraph 3.9.3 – Add a new subparagraph 3.9.3 as follows: "In the event that the Contractor's superintendent or the superintendents of the Contractor's major subcontractors repeatedly fail to perform their functions in keeping with the standards commonly observed in the construction industry or repeatedly fail to cooperate and

coordinate the Contractor's Work in conformance with the Contract Documents, then the Owner or Architect shall have the right to request the superintendent's removal in writing. The Contractor agrees that, upon receipt of written notice, the Contractor shall remove the superintendent or request its major subcontractor to remove the superintendent from the Project within two (2) weeks and provide a suitable replacement."

Subparagraph 3.9.4 – Add a new subparagraph 3.9.4 as follows: "Upon request from either the Owner or Architect, Contractor's resident superintendent shall provide the Owner and Architect with Contractor's written daily field reports within two (2) working days after the request."

Subparagraph 3.10.1 - Delete the first sentence and add a new first sentence as follows: "The Project Expediter shall prepare the Project schedule for itself and all other Contractors, subcontractors, service and material suppliers, utility providers, and machinery and equipment suppliers (after allowing input into the preparation of the initial schedule to all of such parties) within the first fourteen (14) days after notice of award of the Contract."

Subparagraph 3.10.1 - Add a new last sentence as follows: "The Project Expediter shall be the revisor and the enforcer of the Project schedule and shall furnish the Owner and the Architect with copies of the schedule, all revisions to the schedule, and periodic (at least monthly) reports of actual performance of the Work in relation to the scheduled performance. The schedule must correlate with the schedule of values submitted by the Contractor."

Subparagraph 3.10.3 - Delete in its entirety and add a new subparagraph 3.10.3 as follows: "The Contractor shall conform to the most recent schedules submitted to the Owner, Project Expediter, and Architect."

Subparagraph 3.10.4 - Add a new subparagraph 3.10.4 as follows: "The Contractor, including its subcontractors, shall keep informed of the progress and the detail of the Work of other Contractors and subcontractors and shall notify the Architect, Owner and Project Expediter immediately of any failure of any other Contractor or subcontractors to maintain the progress of the Work or of defective Work on the part of other Contractors or subcontractors. Failure of the Contractor to notify the Architect, Owner, and Project Expediter of schedule delays or defective Work shall be construed as acceptance by the Contractor of the status of the Work and as being satisfactory for the proper coordination with the Contractor's own Work."

Subparagraph 3.11.1 – Delete in its entirety and add a new subparagraph 3.11.1 as follows: "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. These documents shall be marked by Contractor on an on-going basis to record (i) deviations from the Drawings made during construction; (ii) details in the Work not previously shown; (iii) changes to existing conditions or existing conditions found to differ from those shown on any existing drawings; and (iv) such other information as either the Owner or Architect may reasonably request. In addition, Contractor shall maintain one record copy of the approved shop drawings, product data, samples and similar required submittals. The foregoing documents shall be delivered to the Architect following the completion of construction to enable the Architect to produce a set of "Record Drawings" showing the as-built condition of the improvements and any changes to existing conditions. Final payment and any retainage shall not be due and payable to the Contractor until after the foregoing documents have been delivered to the Architect."

Subparagraph 3.12.4 - Delete the last two sentences.

Subparagraph 3.12.9 - Delete the last sentence.

Subparagraph 3.12.10 - Delete the words "only" and "limited" in the next to last sentence.

Subparagraph 3.13.2 – Add a new subparagraph 3.13.2 as follows: "Only materials and equipment which are to be used directly in the Work shall be brought to and stored on the Project site by the Contractor. Materials stored off-site shall be stored in a bonded warehouse in the county where the Project is located. After equipment is no longer required for the Work, it shall be promptly removed from the Project site by the Contractor. Protection of construction materials and equipment stored at the Project site from weather, theft, damage and all other adversity is solely the responsibility of the Contractor."

Subparagraph 3.13.3 – Add a new subparagraph 3.13.3 as follows: "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, which may be withheld in the sole discretion of the Owner."

Subparagraph 3.13.4 – Add a new subparagraph 3.13.4 as follows: "Contractor shall ensure that the Work, at all times, is performed 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. Without limitation of any other provision of the Contract Documents, Contractor shall use its best efforts to minimize any interference with the occupancy or beneficial use of (1) any areas and buildings adjacent to the site of the Work or (2) the building in the event of partial occupancy, as more specifically described in Paragraph 9.9 herein."

Subparagraph 3.15.1.1 – Add a new subparagraph 3.15.1.1 as follows: "Each Prime Contractor shall be responsible for overall general clean-up, which is keeping the premises free from the accumulation of waste materials, rubbish and debris, including mud and dirt on streets and roads caused by the operations of all Prime Contractors and bear all cost associated with this task. The premises is defined as the Project site and includes the Project limits as described in the Contract Documents, and public streets and private ways that are adjacent to the site and utilized for access and construction activity."

Subparagraph 3.15.1.2 – Add a new subparagraph 3.15.1.2 as follows: "Public streets and private ways adjacent to the Project shall be free of debris and obstructions at all times. Mud and dry earth on the surfaces of these streets and byways shall be cleaned by the Contractor at the end of each working day."

Subparagraph 3.18.1 - Delete the words "and to the extent claims, damages, losses or expenses are not covered by Project Management Protective Liability insurance purchased by the Contractor in accordance with Paragraph 11.3" in the first sentence. Also add the following ", defend" to the first sentence after the word "indemnify".

Subparagraph 3.18.3 – Add a new subparagraph 3.18.3 as follows: " The Contractor hereby further acknowledges and agrees that should any Contractor or subcontractor or supplier of the Contractor file a claim or institute any legal proceeding against the Owner concerning any dispute or controversy arising from any acts, errors or omissions of the Contractor, then the Contractor shall indemnify (or contribute) and hold the Owner harmless from any and all costs incurred, including, but not limited to legal costs and attorneys' fees and payments of any judgment against the Owner."

E. ARTICLE 4 - ADMINISTRATION OF THE CONTRACT

Subparagraph 4.1.2 - Add the following after the first sentence: "The Architect will advise and consult with the Owner regarding any such restrictions, modifications or extensions."

Subparagraph 4.2.4 - Add the following to the end of the subparagraph: "The Contractor shall direct all correspondence relevant to the Contract Documents to the Architect with a copy for the Owner's representative. Architect shall then distribute to appropriate parties for review."

Subparagraph 4.2.5 - Add the words "observations and" before the word "evaluations" in the first line.

Subparagraph 4.2.9 - Add the following phrase to the third line after the word "records,": "the record documents required by Subparagraph 3.11.1,".

Subparagraph 4.2.11.1 – Add a new subparagraph 4.2.11.1 as follows: "Contractor requests for clarification or information shall clearly define the cause(s) of Contractor's request and, as appropriate, shall include Contractor's interpretation and Contractor's proposed solution."

Subparagraph 4.3.4 - Delete the following words from the last sentence "If the conditions encountered are materially different, the Contract Sum and Contract Time shall be equitably adjusted, but,".

Subparagraph 4.3.4.1 – Add a new subparagraph 4.3.4.1 as follows: "No adjustment in the Contract Time or Contract Sum shall be permitted, however, in connection with a concealed or unknown condition which does not differ materially from those conditions disclosed or which reasonably should have been disclosed by the Contractor's (1) prior inspections, tests, reviews and pre-construction services for the Project, or (2) inspections, tests, reviews and pre-construction services which the Contractor had the opportunity to make or should have performed in connection with the Project."

Subparagraph 4.3.5 - Add the following to the end of the subparagraph: "Claims for additional cost shall be submitted as a lump sum amount and determined by the Contractor's itemized estimate unless otherwise agreed upon at the time of change. All proposals shall be accompanied with a detailed breakdown of Work quantities for each labor and material cost line items identified for each major component. Any requests for additional Contract time accompanying a claim or proposal must be submitted along with the cost proposal."

Subparagraph 4.3.7.1 – Delete the last sentence and add the following to the end of the subparagraph: "Claims for extension of time due to delays during any particular month shall be made in writing to the Architect with the Contractor's monthly pay application for such month. Such claims shall list those days or half days during which work was scheduled, but could not be performed due to unanticipated conditions or events. Failure to make such claims with the Architect within such time shall constitute a waiver of the Contractor's claim for extension of time for that period. Except for delays caused solely by the Owner or its agent the Contractor agrees that an extension of time shall be the only compensation due him for any delay. For purposes of this subparagraph, the phrase 'Owner or its agent' does not include prime contractors or their subcontractors."

Subparagraph 4.3.7.2 - Add the following to the end of the subparagraph: "Extensions of time may be requested for any month of construction for days lost, which affect the critical path of construction, due to adverse weather in excess of the expected adverse weather days. Claims for extension of time due to unanticipated adverse weather during

any particular month shall be made in writing to the Architect with the Contractor's monthly pay application for such month. Such claims shall list those days or half days during which work was scheduled, but could not be performed due to unanticipated adverse weather conditions. Failure to make such claims with the Architect within such time shall constitute a waiver of the Contractor's claim for extension of time for that period. Claims for extensions of construction time due to unanticipated adverse weather conditions shall include National Oceanic and Atmospheric Administration (NOAA) Climatological Reports for the month involved plus a report indicating the precipitation, temperature, etc., for the past ten (10) years from the nearest reporting station. This data will be used to determine the number of adverse weather days which the Contractor would normally expect to encounter. Except for delays caused solely by the Owner or its agent the Contractor agrees that an extension of time shall be the only compensation due him for unanticipated adverse weather days. For purposes of this subparagraph, the phrase 'Owner or its agent' does not include prime contractors or their subcontractors."

Subparagraph 4.3.9 - Delete in its entirety.

Subparagraph 4.4.1 - Delete the following language from the first sentence: "but excluding those arising under paragraphs 10.3 through 10.5,". Delete the word "arbitration" from the second sentence.

Subparagraph 4.4.3 - Add the words "or Contractor" after the word "Owner" in the third line and the words "or Contractor's" after the word "Owners" in the last line.

Subparagraph 4.4.5 – Delete the words "and arbitration" in the last line.

Subparagraph 4.4.6 - Delete in its entirety.

Subparagraph 4.4.8 - Delete the words "or by arbitration" in the last line.

Subparagraph 4.5.1 - Delete the word "initial" from the third line and add the words "pursuant to Subparagraph 4.4.5" after the word "decision" in the third line. Delete the words "arbitration or" in the fourth line.

Subparagraph 4.5.2 - Delete in its entirety and add a new subparagraph 4.5.2 as follows: "The Contractor shall make the mediation provisions of the Contract available to and part of the Contract of all subcontractors, laborers, and materialmen. The costs of mediation shall be shared equally by the parties. Legal or equitable proceedings shall be stayed pending mediation for a period of sixty (60) days from the date of filing, unless stayed for a longer period by agreement of the parties or court order."

Subparagraph 4.5.3 - Delete the first sentence.

Paragraph 4.6 – Delete in its entirety.

F. ARTICLE 5 - SUBCONTRACTORS

Subparagraph 5.2.1 – Delete the following from the first sentence: "Unless otherwise stated in the Contract Documents or bidding requirements, the Contractor, as soon as practicable after award of the Contract" and insert the following phrase in its place: "Within fifteen (15) days after execution of the Contract or prior to the first Application for Payment (whichever is earlier), the Contractor".

Subparagraph 5.2.3 - Delete the second sentence. Add the words, ", if any," after the word "change" in the third sentence.

Subparagraph 5.3.1 – Add the following to the end of the subparagraph: "The obligations of the Contractor under this subparagraph are material terms of the Contract Documents."

G. ARTICLE 6 - CONSTRUCTION BY OWNER OR BY SEPARATE CONTRACTORS

Subparagraph 6.1 1 - Delete the last sentence in its entirety.

Subparagraph 6.1.3 - Delete in its entirety and add a new subparagraph 6.1.3 as follows: "The Project Expediter shall provide for the coordination of the activities of the Owner's own forces and of each separate Contractor."

Subparagraph 6.1.4 - Delete in its entirety and add a new subparagraph 6.1.4 as follows: "Each Prime Contractor shall be responsible for additional costs and time delays experienced by any or all other Prime Contractors which result from the Work (including substitutions and changes) of each such Prime Contractor. Each Prime Contractor who is responsible for any delay shall reimburse each Contractor for all costs and expenses associated with the delay."

Subparagraph 6.2.3 - Delete in its entirety.

H. ARTICLE 7 - CHANGES IN THE WORK

Subparagraph 7.2.3 – Add a new subparagraph 7.2.3 as follows: "After a Change Order has been executed by all parties, it shall constitute a final settlement of all matters relating to the change and the Contractor shall have no claim for the cost or expense of additional Work or for an extension of Contract Time unless such Work and/or such Time is stated on the face of the Change Order proposal. Any attempted reservation by the Contractor of the right to subsequently claim any amount or any extension of Contract Time not stated on the face of the Change Order proposal shall be null and void."

Subparagraph 7.2.4 – Add a new subparagraph 7.2.4 as follows: "When changes in the Contract Sum, either additions or deductions, are based upon unit prices and/or allowances, no overhead or profit shall be added as unit prices and allowances are net."

Subparagraph 7.3.8 - Delete in its entirety.

Paragraph 7.5 - Add a new paragraph 7.5 "ALLOWANCE FOR OVERHEAD AND PROFIT"

Subparagraph 7.5.1 – Add a new subparagraph 7.5.1 as follows: "The allowance for overhead and profit combined, included in the total cost to the Owner, shall not exceed the following:

Additive change order work (lump sum)

1. For a Prime Contractor, for any Work performed by its own forces, fifteen percent (15%) of the cost.
2. For a Prime Contractor, for Work performed by its subcontractor, seven percent (7%) of the amount due the subcontractor.
3. For each subcontractor included, for any Work performed by the subcontractor's own forces, fifteen percent (15%) of the cost.

Deductive change order work (lump sum)

The Prime Contractor shall include a deduction of at least ten percent (10%) profit. No deduction is required for overhead.

Additive or Deductive Change Order work (unit price)

No overhead or profit shall be made; unit prices are to be net.

I. ARTICLE 8 - TIME

Subparagraph 8.1.2 – Delete in its entirety and add a new subparagraph 8.1.2 as follows: “The date of commencement of the Work shall be the date established in the Notice to Proceed.”

Subparagraph 8.3.1 - In the fourth and fifth lines, delete the words: “or by delay authorized by the Owner pending mediation and arbitration.”

Subparagraph 8.3.3 - Delete in its entirety and add a new subparagraph 8.3.3 as follows: “Except for delays caused solely by the Owner or its agent the Contractor agrees that an extension of time shall be the only compensation due him for any delay. For purposes of this subparagraph, the phrase ‘Owner or its agent’ does not include prime contractors or their subcontractors. The Owner is not precluded from recovering damages for delay by the Contractor.”

Subparagraph 8.3.4 – Add a new subparagraph 8.3.4 as follows: “Adverse weather conditions shall be defined as “weather extremes” (precipitation, temperature, and/or winds) which could not have been anticipated and which prohibit the type of construction activity scheduled during the time of adverse weather. Requests for extensions of Contract Time shall comply with subsection 4.3.7 herein.”

Subparagraph 8.3.5 – Add a new subparagraph 8.3.5 as follows: “Contractor agrees that dates under the Contract will not be extended due to normal inclement weather. For a time extension to be granted for abnormal, inclement weather a) such weather must, in the opinion of the Architect and the Owner's Representative, actually have an adverse effect upon the progress of the Contractor's work which is of a critical nature, and b) in the opinion of the Architect and the Owner's Representative, the adverse effect must not be due to any fault or negligence of Contractor and could not have been avoided by the Contractor through proper planning, coordination and implementation of adequate weather protection necessary to allow the Work to be continued without adverse effect upon labor production. Contractor agrees that the fact that abnormal inclement weather may occur does not, by itself, justify any time extension.”

Subparagraph 8.3.6 – Add a new subparagraph 8.3.6 as follows: “Failure on the Contractor's part to submit a claim for adverse weather each month shall constitute a waiver of the claim for the month. The Construction Progress Schedule shall be updated each month that unanticipated adverse weather days accrue.”

Paragraph 8.4 - Add a new paragraph 8.4 as follows: “RESPONSIBILITY FOR COMPLETION”

Subparagraph 8.4.1 – Add a new subparagraph 8.4.1 as follows: “The Contractor shall furnish such manpower, materials, facilities and equipment and shall work such hours, including night shifts, overtime operations, Saturdays, Sundays and holidays, as may be necessary to ensure the progress and completion of the Work in accordance with the approved and then current updated Construction Progress Schedule. If work falls behind such schedule and if it becomes apparent from such schedule that the Work will not be completed within the Contract Time, the Contractor agrees that it shall, as necessary, take some or all of the following actions at no additional cost to the Owner, as required to substantially eliminate, in the judgment of the Architect, the backlog of work:

1. Increase manpower in quantities and crafts necessary;
2. Increase the number of working hours per shift, shifts per working day, working days per week, the amount of equipment, or any combination of the foregoing;
3. Reschedule activities as needed, including critical path activities where possible; and/or
4. Employ the services of a construction time management consultant to be approved by the Owner at Contractor's sole cost and expense.

Subparagraph 8.4.2 - Add a new subparagraph 8.4.2 as follows: "The Architect may require the Contractor to submit a recovery schedule within a reasonable time set by the Architect demonstrating the Contractor's program and proposed plan to make up the lag in scheduled progress and to ensure completion of the Work within the Contract Time. If the Architect finds the proposed plan not acceptable, it may require the Contractor to submit a new plan. If the actions taken by the Contractor on the second proposed plan are not satisfactory, the Architect may require the Contractor to take any of the actions set forth in this Paragraph 8.4 without additional cost to the Owner, to make up the lag in scheduled progress."

Subparagraph 8.4.3 - Add a new subparagraph 8.4.3 as follows: "Failure of the Contractor to comply with the requirements of this paragraph 8.4 may be considered grounds for determination by the Owner that the Contractor is failing to prosecute the Work with sufficient diligence to ensure its completion within the Contract Time."

Subparagraph 8.4.4 - Add a new subparagraph 8.4.4 as follows: "Damages for the delay shall be assessed against the various contractors regardless of their respective degrees of responsibility for the delay in the event that work is delayed beyond the Contract Time. The Contractor and Owner recognize the delays, difficulties and expense involved in proving the actual costs and expenses to the Owner for a delay in Project completion. Therefore, the Contractor and Owner agree that for each day of delay in excess of the Contract Time for construction, each Contractor shall pay to the Owner the sum of five hundred dollars (\$500) per day as liquidated damages, not as a penalty, reasonably estimated in advance to cover the losses to be incurred by the Owner by reason of failure of the Contractors to complete the Work within the Contract Time, such time being of the essence of the Contract and a material consideration thereof.

Furthermore, the Owner may, upon recommendation of the Architect and upon written notice to the Contractors, withhold from the Contractors monthly pay requests up to the sum of five hundred dollars (\$500) per day for each day that the Project is determined to be behind schedule at any time that the Project has remained behind schedule for more than thirty days. Said damages shall be withheld until such time as it is determined that the Project is back on schedule and may be applied to satisfy in whole or part any final amount of liquidated damages assessed against the Contractor.

Assessment of liquidated damages is not subject to the provisions of Article 4."

Subparagraph 8.4.5 - Add a new subparagraph 8.4.5 as follows: "Upon the Date of Substantial Completion, assessment of Liquidated Damages will be suspended for a period of 30 calendar days for the purpose of completion of Punch List items, completion of the Contractor's project documentation, and Contractor's requests for any Final Change Order claims. Should such Contract requirements not be completed within 30 calendar days, Liquidated Damages will begin 30 days after the Date of Substantial Completion and be assessed until all Contract obligations have been fulfilled."

J. ARTICLE 9 - PAYMENTS AND COMPLETION

Subparagraph 9.3.1 - Delete in its entirety and add a new subparagraph 9.3.1 as follows: "The monthly Application for Payment shall be submitted by the Contractor so it will be received by the Architect not later than the last day of the month. The Architect will submit Applications for Payment that are approved to the Owner by the fifth (5) of the following month, and the Owner will make payment to the Contractor by the 15th of that month. The Applications for Payment for operations completed shall be in accordance with the Schedule of Values.

Each copy of the Contractor's monthly Application for Payment shall bear the following certification over the Contractor's signature:

I hereby certify that the labor and material listed on this statement have been used in the construction of this work and that all material included in this statement and not yet incorporated into the construction is stored on the site or off site in accordance with the terms of the Contract Documents and that the material is protected and insured as specified and that all such labor and material have been paid for in full.

Materials stored off site shall be stored in a bonded warehouse in the county where the Project is located.

Payments will be made on the basis of ninety-five percent (95%) of approved monthly applications. When the Owner has received the Architect's final Certificate for Payment and the Owner, the Architect and all regulatory agencies have formally accepted all of the work, final payment will be made within thirty (30) days thereafter.

When work under the Contract is fifty percent (50%) complete and if satisfactory progress is being made, and subject to approval of the Architect and the Contractor's Surety, the Owner may make remaining monthly payments in full. "Satisfactory progress" under this subparagraph, includes but is not limited to, the duty of the Contractor to fully correct all Work that has been identified in writing as "nonconforming" by the Architect, Owner or Engineer. Such corrective Work must be accepted by the Architect, Owner or Engineer."

The full Contract retainage may be reinstated if the manner and progress of the Work does not remain satisfactory to the Architect and Owner and to the extent necessary (not to exceed 5% at any one time) to enable the Owner to retain 2.5% total retainage through final completion. In addition to the provisions of this subparagraph, the Owner retains the right to withhold payment for unsatisfactory job progress, defective construction not remedied, disputed work, or third-party claims filed against the owner or reasonable evidence that a third-party claim will be filed."

Subparagraph 9.3.1.1 - Delete "As provided in subparagraph 7.3.8," also delete "or by interim determinations of the Architect,".

Subparagraph 9.4.1 - In the first line delete the word "seven" and substitute the word "five" in its place.

Subparagraph 9.4.2 - After the word "Architect's" and before the word "evaluation" in the first sentence add "observations at the site and".

Subparagraph 9.4.3 - Add a new subparagraph 9.4.3 as follows: "Payment for materials and equipment which cannot suitably be stored on-site will be considered if properly stored in an approved bonded warehouse located in the county where the Project is

located upon submission of Owner's Bill of Sale and Agreement, properly executed, on forms to be furnished by the Owner and upon submission of adequate all-risk insurance naming the Owner as an additional insured."

Subparagraph 9.5.1.6 - Delete the word "or" at the end of this subparagraph.

Subparagraph 9.5.1.7 - Delete the word "persistent", and substitute "; or" for the period at the end thereof.

Subparagraph 9.5.1.8 - Add a new subparagraph 9.5.1.8 as follows: "liens or claims of lien with respect to any portion of the Work."

Subparagraph 9.6.7 - Delete in its entirety.

Subparagraph 9.7.1 - In the second line, delete the word: "seven" and substitute the word "five" in its place. In the third line, delete the word: "seven" and substitute the word "ten" in its place.

Subparagraph 9.8.5 - Add the following to the end of the subparagraph: "Such payment shall be made within sixty (60) days of the submission of a pay request along with the written consent of the surety and the amount withheld by the Owner for final completion shall not exceed two and one-half times the estimated value of the Work to be completed and/or corrected. In addition to the provisions of this subparagraph, the Owner retains the right to withhold payment for unsatisfactory job progress, defective construction not remedied, disputed work, or third-party claims filed against the owner or reasonable evidence that a third-party claim will be filed."

Subparagraph 9.9.1 - Add the following to the end of the subparagraph: "If the Owner receives beneficial occupancy of the entire project and if the Contractor submits a pay request related to such beneficial use, then the Owner shall make payment of retainage applying to such Work or designated portion thereof within sixty (60) days with written consent of the surety. Such payment shall be adjusted for Work that is incomplete or not in accordance with the requirements of the Contract Documents, however, the amount withheld shall not exceed two and one-half times the estimated value of the Work to be completed and/or corrected. In addition to the provisions of this subparagraph, the Owner retains the right to withhold payment for unsatisfactory job progress, defective construction not remedied, disputed work, or third-party claims filed against the owner or reasonable evidence that a third-party claim will be filed." Occupancy by the Owner under this subparagraph does not constitute Substantial Completion nor final completion."

Subparagraph 9.10.1 - Add the following to the end of the subparagraph: "All warranties and guarantees required under or pursuant to the Contract Documents shall be assembled and delivered by the Contractor to the Architect as part of the final Application for Payment. This final Certificate for Payment will not be issued by the Architect until all the warranties, the documents required by subparagraph 3.11.1 herein, operation and maintenance manuals, a notarized statement of total sales tax paid, an itemized accounting of final amount paid to MWBE firms by the Contractor, and a statement that no asbestos containing materials have been incorporated into the Work by the Contractor have been delivered to and accepted by the Owner."

Subparagraph 9.10.1.1 - Add a new subparagraph 9.10.1.1 as follows: "Full payment, less authorized deductions, shall also be made for those trades that have reached one hundred percent (100%) completion of their contract by or before the project is fifty percent (50%) complete if the contractor has performed satisfactorily. However, payment to the early finishing trades is contingent upon the Owner's receipt of an approval or

certification from the Architect or Engineer that the Work performed by the subcontractor is acceptable and in accordance with the contract documents. At that time, the Owner shall reduce the retainage for such trades to five-tenths (0.5%) of the Contract. Payments made under this subparagraph shall be made no later than sixty (60) days following receipt of the subcontractor's request or immediately upon receipt of the surety's consent, whichever occurs later. "Early finishing trades" means those subcontractors providing steel, piling, caisson, and demolition. The Architect, in the bid documents, shall specify the inspections required by the Owner prior to accepting Work, including necessary financial disclosures. The failure of the Architect to specify inspections shall not alter the requirement of approval or certification by the Architect or Engineer as stated herein. In addition to the provisions of this subparagraph, the Owner retains the right to withhold payment for unsatisfactory job progress, defective construction not remedied, disputed work, or third-party claims filed against the owner or reasonable evidence that a third-party claim will be filed."

Subparagraph 9.10.4 – Add the following to the end of the subparagraph: "

- .4 Claims for indemnification or contribution;
- .5 Claims about which the Owner has given the Contractor written notice;
- .6 Claims arising after final payments."

K. ARTICLE 10 - PROTECTION OF PERSONS AND PROPERTY

Subparagraph 10.2.4 – Delete in its entirety and add a new subparagraph 10.2.4 as follows: "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 1) provide the Architect and Owner with advanced notice, 2) exercise utmost care, and 3) carry on such activities under supervision of properly qualified personnel."

Subparagraph 10.2.8 - Add a new subparagraph 10.2.8 as follows: "The Contractor acknowledges that it will be performing the Work on an actively operating school site. The Contractor shall, therefore, take all precautions necessary to ensure that children will be unable to enter the construction site or an area where materials might be stored and to ensure that children will not be injured during this Project."

Subparagraph 10.2.9 – Add a new subparagraph 10.2.9 as follows: "When all or a portion of the Work is suspended for any reason, the Contractor shall securely fasten down all coverings and protect the Work, as necessary, from injury by any cause".

Subparagraph 10.2.10 - Add a new subparagraph 10.2.10 as follows: "The Contractor shall promptly report in writing to the Owner and Architect all accidents arising out of or in connection with the Work which cause death, personal injury, or property damage, giving full details and statements of any witnesses. In addition, if death, serious personal injuries, or serious property damages are caused, the accident shall be reported immediately by telephone or messenger to the Owner and the Architect."

Subparagraph 10.3.2 - Delete the word: "shall" and substitute the word "may" in the first line. Delete the second, third, and fourth sentences in their entirety. At the beginning of the last sentence add the phrase "In the event that hazardous materials are found to be present,". At the end of the last sentence add ", or in the absence of agreement, at the direction of the Architect." Delete the first and second "shall" and substitute the word "may" in the last sentence.

Subparagraph 10.3.3 - Delete in its entirety.

Subparagraph 10.4 - Delete in its entirety.

Subparagraph 10.5 - Delete in its entirety.

L. ARTICLE 11 - INSURANCE AND BONDS

The following requirements modify the requirements of Article 11 of the General Conditions: The Contractor shall not commence work under the Contract until it has obtained all insurance required under this Article or as required by law, and until such insurance has been approved by the Owner; and the Contractor shall not allow any subcontractor to commence work under its subcontract until all similar insurance has been so obtained and approved.

Subparagraph 11.1.1 – Add the following to the end of subparagraph 11.1.1 as follows: "Contractor's Liability Insurance shall include all major divisions of the Work and be on a comprehensive basis including:

- a) Premises/operations (including explosion, collapse and underground as applicable).
- b) Independent Contractor's and Owner's and Contractor's Protective.
- c) Products and completed operations.
- d) Personal injury liability with employment exclusion deleted.
- e) Owned, non-owned and hired motor vehicles.
- f) Broad form property damage including completed operations.
- g) Any and all liability by way of indemnification, contribution and contractual liability."

Subparagraph 11.1.2 – Delete the phrase "whether written on an occurrence or claims-made basis," in the second sentence and add the phrase "which shall be written on an occurrence basis," in its place.

Subparagraph 11.1.2.1 – Add a new subparagraph 11.1.2.1 as follows: "The insurance required by subparagraph 11.1.1 shall be written for not less than the following limits, or greater if required by law:

1. Worker's Compensation:
 - a. State Statutory
 - b. Applicable Federal Statutory
 - c. Employer's Liability
 - i. \$100,000 Each Accident
 - ii. \$1,000,000 Disease, Policy Limit
 - iii. \$100,000 Disease, Each Employee
2. Comprehensive General Liability (including premises/operations, independent contractors, products and completed operations, and broad form property damage):
 - a. Bodily Injury & Property Damage (combined single limit):

\$1,000,000	Each Occurrence
\$2,000,000	Annual Aggregate
 - b. Products and completed operations to be maintained for one (1) year after final payment.
3. Contractual Liability (Hold Harmless Coverage):
 - a. Bodily Injury & Property Damage (combined single limit):

\$1,000,000 Each Occurrence
 \$2,000,000 Annual Aggregate

4. Personal Injury, with employment exclusion deleted:

\$1,000,000 Annual Aggregate

5. Comprehensive Automotive Liability (owned, non-owned and hired):

a. Bodily Injury & Property Damage (combined single limit):

\$1,000,000 Each Accident

6. Excess Liability (umbrella): Minimum Limits

a. \$2,000,000 Over Primary Insurance

7. Owner's Protective Liability Insurance: The Contractor shall be responsible for and shall obtain such insurance as will fully protect the Owner from liability for damage to the Work which may arise from any and all Contractor's operations under the Contract Documents. Limits of coverage required for this insurance shall be not less than \$1,000,000 combined single limit. Each policy shall name the Owner as insured.

8. Builders Risk Insurance:

The Contractor shall effect and maintain, Fire, Extended Coverage and Vandalism and Malicious Mischief Insurance upon the entire Project on which the Work is to be done, to one hundred percent (100%) of the insurable value thereof, including but not limited to items of labor and materials connected therewith, whether in or adjacent to the structure insured; materials in place or to be used as part of or in the construction of the permanent construction, including but not limited to surplus materials, shanties, protective fences, bridges, and temporary structures; miscellaneous materials and supplies incidental to the Work; and such scaffolding, staging, towers, forms, and equipment as are not owned or rented by the Contractor, the cost of which is included in the cost of the Work.

Exclusions: This insurance need not cover: any tools owned by the mechanics; and tools, equipment, scaffolding, staging, towers, and forms rented or owned by the Contractor, the capital value of which is not included in the Work; or any structures erected for housing of or service to workmen.

A loss, if any, is to be adjusted with the Owner, and is to be payable to the Owner and to the Contractor jointly, as their interests may appear. The Owner shall be named on the policy as an additional insured."

Subparagraph 11.1.3 - Delete in its entirety and add a new subparagraph 11.1.3 as follows:

"Certificates of Insurance: No later than the date of the execution of the Contract, the Contractor will submit to the Owner four (4) copies of Certificates of Insurance on AIA Document G705 latest edition or accord form, by an insurer authorized to do business in North Carolina by the North Carolina Department of Insurance and rated A- (minus) or better by A.M. Best Company. The certificates shall certify that the insurance policies carried by Contractor were in force before the Work commenced and certifying that these

policies include endorsements issued by the insurer stating that the applicable insurance will not be canceled during the Contract without notice to the Owner. Such endorsements, and the special conditions block of the Certificate of Insurance, shall state that the insurance coverage will not be cancelled or reduced without thirty (30) days prior written notice to the insured and the Owner. Endorsements containing disclaimers holding the insurer harmless for failure to notify the Owner of coverage reductions and/or cancellations will not be acceptable and must be modified to delete such disclaimers from the Insurance forms. This is applicable to Acord 25-N, Acord 25-S, AIA G-705 and all other insurance forms bearing such a disclaimer. In preparation of these forms, the following items should read:

1. The description of operations/locations/vehicles/special items should contain the following statement along with any items particular to your company.
BUNCOMBE COUNTY BOARD OF EDUCATION IS NAMED AS
ADDITIONAL INSURED IN RESPECT TO GENERAL LIABILITY.

2. The certificate holder is:

BUNCOMBE COUNTY BOARD OF EDUCATION
175 Bingham Road, Asheville, NC 28806

3. The cancellation statement in the special conditions block is:

SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELED OR REDUCED BEFORE THE EXPIRATION DATE THEREOF, THE ISSUING COMPANY WILL MAIL THIRTY (30) DAYS PRIOR WRITTEN NOTICE TO THE CERTIFICATE HOLDER NAMED TO THE LEFT.

All blanks and questions on certificates must be filled out completely. Incomplete or inadequate certificates will be returned to Contractor as unsatisfactory and commencement of its Work will be delayed until satisfactory certificates are submitted. Such delay will not warrant extension of Contract Time. In the event of a reduction in any aggregate limit, the Contractor shall take immediate steps to have it reinstated. All insurance coverages of the Contractor shall be primary to any insurance or self-insurance program carried by the Owner. Renewal Certificates of Insurance on the Owner's form must be provided to the Owner thirty (30) days prior to expiration of current coverages so that there shall be no interruption in the Work due to lack of proof of insurance coverages required of the Contractor in the Contract Documents."

Subparagraph 11.1.4 - Add a new subparagraph 11.1.4 as follows: "The acceptance of delivery to the Owner of any Certificate of Insurance evidencing the insurance coverages and limits required in the Contract does not constitute approval or agreement by the Owner that the insurance requirements in the Contract have been met or that the insurance policies shown in the Certificates of Insurance are in compliance with the Contract requirements."

Subparagraph 11.1.5 - Add a new subparagraph 11.1.5 as follows: "Should at any time the Contractor not maintain the insurance coverages required of it in the Contract Documents, the Owner may either cancel or suspend the Contract or, at its sole discretion, shall be authorized to purchase such coverage and charge the Contractor for such coverages purchased. The Owner shall be under no obligation to purchase such insurance or shall be responsible for the coverages purchased or the responsibility of the insurance companies used. The decision of the Owner to purchase such insurance coverages shall in no way be construed to be a waiver of its rights under the Contract Documents."

Subparagraph 11.1.6 - Add a new subparagraph 11.1.6 as follows: "If any General Liability Insurance required herein is to be issued or renewed on a "claims made" form as opposed to the "occurrence" form, the retroactive date for coverages shall be no later than the commencement date of the Project and shall provide that in the event of cancellation or non-renewal the discovery period of insurance claims shall be unlimited."

Subparagraph 11.1.7 - Add a new subparagraph 11.1.7 as follows: "All policies described in this paragraph 11.1 shall be made available to the Owner or its legal representatives by means of exact copies of the original policies and placed in the hands of the Owner or its representatives."

Subparagraph 11.1.8 - Add a new subparagraph 11.1.8 as follows: "If requested in writing by any party in interest, the Contractor shall, upon occurrence of loss, furnish bond for the proper performance of its duties. The Contractor shall deposit any money received from insurance in an account separate from all its other funds; and it shall distribute it in accordance with such agreement as the parties of interest may reach, or in the absence of such an agreement, as the interest of the parties may appear. Replacement of injured work shall be performed by the Contractor."

Paragraph 11.3 – Delete in its entirety.

Paragraph 11.4 – Delete in its entirety.

Subparagraph 11.5.3 - Add a new subparagraph 11.5.3 as follows: "The cost of the Bonds shall be included in the Contract Sum. The Bonds shall guarantee the Contractor's faithful performance of the Contract and the payment of all obligations arising thereunder. The Bonds shall remain in force until:

- a. The Project has been completed and accepted by the Owner; and
- b. The provisions of all guarantees required by the Contract Documents have been fulfilled or the time limitation for all guarantees has expired; and
- c. Until the time for the filing of all mechanics liens has expired, whichever is longer, after which it shall become void.

Bonds which seek to limit the time for bringing a suit to less than the time allowed by North Carolina State Statute are unacceptable."

M. ARTICLE 12 - UNCOVERING AND CORRECTION OF WORK

Subparagraph 12.2.1.2 – Add a new subparagraph 12.2.1.2 as follows: "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 devices, the Contractor shall cause such item to be restored to "like new" condition at no expense to the Owner."

Subparagraph 12.2.1.3 – Add a new subparagraph 12.2.1.3 as follows: "The Contractor's obligation to correct Work under subparagraph 12.2.1 shall not be limited by the items and conditions of manufacturers' warranties, if any."

Subparagraph 12.2.2.1 - Delete the third sentence in its entirety.

Subparagraph 12.2.2.2 - Delete the word "first" from the second line.

Subparagraph 12.2.2.3 - Delete in its entirety.

N. ARTICLE 13 - MISCELLANEOUS PROVISIONS

Subparagraph 13.1.1 - Add the following to the end of the subparagraph: "Any civil action arising from a dispute involving the performance of the Contract Documents shall be tried in Civil Superior or Civil District Court in the County in which the Project is located."

Subparagraph 13.1.2 – Add a new subparagraph 13.1.2 as follows: "The Owner relies upon the Contractor to execute the Work in a safe and proper manner. All Work executed as a part of the Contract Documents, and all material used or installed as a part of this Work, shall conform to the provisions of the OSHA Standards, current OSHA directives, and all other applicable or specified codes and standards governing the Contractor's trade. Execution of the Contract Documents constitutes agreement by the Contractor to be wholly responsible for such compliance and to hold the Owner and Architect harmless from all costs or actions arising from failure to so comply. In the event that review, inspection or action by regulatory agencies or other parties results in fines, fees or other costs due to noncompliance being imposed upon the Contractor, such fines, fees or other costs shall be borne by the Contractor and shall not be considered either a direct or indirect cost to the Owner."

Subparagraph 13.3.1 – Delete in its entirety and add a new subparagraph 13.3.1 as follows: "Written notice given to the Owner shall be to the Superintendent, Buncombe County Board Of Education, (address).

Notices and legal actions regarding construction contracts, including; approval of contracts, change orders, reduction in retainage, close out, etc. require Board approval. All requests for such actions shall be delivered to the Architect no later than the 23rd day of the month in order to obtain Board action during the following month unless Board policy or directive provides otherwise."

Subparagraph 13.5.6 - Delete in its entirety and add a new subparagraph 13.5.6 as follows: "Tests of the Work required by the Contract Documents to establish compliance shall be made at appropriate times. The Contractor shall make arrangements for such tests with an independent testing laboratory. The services of the testing laboratory shall be provided at the Owner's expense. The Contractor shall give the Architect timely notice of when and where tests are to be made so the Architect may observe such procedures.

Reports of all tests shall be distributed to the Contractor, the Architect and the Owner by the testing laboratory.

Representatives of the testing laboratory shall have access to the Work at all times and at all locations where the Work is in progress. The Contractor shall provide access to enable the testing laboratory to perform its functions properly. It shall be the Contractor's responsibility to keep the testing laboratory informed of work in progress at the site. All specimens and samples for testing, unless otherwise provided in the Contract Documents, shall be taken by the testing personnel. All sampling equipment and personnel will be provided by the testing laboratory. All deliveries of specimens and samples to the testing laboratory will be performed by the testing laboratory.

When initial tests described above indicate non-compliance with the Contract Documents, the costs of subsequent re-testing required by the non-compliance shall be performed by the same testing laboratory at the expense of the Contractor.

Inspecting and testing performed exclusively for the Contractor's convenience shall be the sole responsibility of the Contractor and shall be paid for by him."

Subparagraph 13.6.1 - Delete in its entirety and add a new subparagraph 13.6.1 as follows: "The Owner shall pay interest at the rate of zero percent (0%)."

Paragraph 13.8 – Add a new paragraph 13.8 as follows: "EQUAL OPPORTUNITY"

Subparagraph 13.8.1 – Add a new subparagraph 13.8.1 as follows: "The Contractor and all subcontractors shall not discriminate against any employee or applicant for employment because of handicap, race, religion, color, sex, national origin, or age. The Contractor shall take affirmative action to insure that applicants are employed, and that employees are treated during employment, without regard to their handicap, race, religion, color, sex, national origin, or age. Such actions shall include, but shall not be limited to, the following: 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. The Contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices setting forth its policies of non-discrimination."

Subparagraph 13.8.2 – Add a new subparagraph 13.8.2 as follows: "The Contractor and all subcontractors shall, in all solicitations or advertisements for employees placed by them or on their behalf, state that all qualified applicants will receive consideration for employment without regard to handicap, race, religion, color, sex, national origin, or age."

Subparagraph 13.8.3 – Add a new subparagraph 13.8.3 as follows: "The Contractor shall further initiate and maintain policies to ensure minority business enterprise participation in the Work in accordance with the provisions of the "Minority Business Participation Policy" as promulgated by the Buncombe County Board of Education."

O. ARTICLE 14 - TERMINATION OR SUSPENSION OF THE CONTRACT

Subparagraph 14.1.1 - In the first sentence, delete the number "30" and substitute the number "90" in its place.

Subparagraph 14.1.1.4 - Delete in its entirety.

Subparagraph 14.1.2 - Delete the phrase "100 percent of the total number of days scheduled for completion, or" and ", whichever is less" from the last two lines of the subparagraph.

Subparagraph 14.2.1.1 - Delete the words: "persistently or repeatedly."

Subparagraph 14.2.1.3 - Delete the word: "persistently".

Subparagraph 14.2.2.3 - Delete the last sentence.

Subparagraph 14.2.4 - Add the following sentence at the end of the subparagraph: "This Subparagraph 14.2.4 is in addition to and not in limitation of any other rights and remedies of the Owner."

Paragraph 14.4 – Delete in its entirety and add a new paragraph 14.4 as follows: "OWNER'S TERMINATION FOR CONVENIENCE"

Subparagraph 14.4.1 – Delete in its entirety and add a new subparagraph 14.4.1 as follows: "The Owner may, at any time, terminate the Contract in whole or in part for the

Owner's convenience and without cause. Termination by the Owner under this subparagraph shall be by a notice of termination delivered to the Contractor specifying the extent of termination and the effective date."

Subparagraph 14.4.2 – Delete in its entirety and add a new subparagraph 14.4.2 as follows: "Upon receipt of a notice of termination for convenience, the Contractor shall immediately, in accordance with instructions from the Owner, proceed with performance of the following duties regardless of delay in determining or adjusting amounts due under this paragraph:

1. cease operation as specified in the notice;
2. place no further orders and enter into no further subcontracts for materials, labor, services, or facilities except as necessary to complete continued portions of the Contract;
3. terminate all subcontracts and orders to the extent they relate to the Work terminated;
4. proceed to complete the Work not terminated; and
5. take actions that may be necessary, or that the Owner may direct, for the protection and preservation of the terminated Work."

Subparagraph 14.4.3 – Delete in its entirety and add a new subparagraph 14.4.3 as follows: "Upon each termination, the Contractor shall recover as its sole remedy payment 1) for Work properly performed in connection with the terminated portion of the Work prior to the effective date of termination, 2) for items properly and timely fabricated off the Project site, delivered and stored in accordance with the Owner's instruction, and 3) for profit on the Work not executed. The Contractor hereby waives and forfeits all other claims for payment and damages, including, without limitation overhead related to the Work not executed."

Subparagraph 14.4.4 – Add a new subparagraph 14.4.4 as follows: "The Owner shall be credited for 1) payments previously made to the Contractor for the terminated portion of the Work, 2) claims which the Owner has against the Contractor under the Contract, and 3) the value of the materials, supplies, equipment or other items that are to be disposed of by the Contractor that are part of the Contract Sum."

**BUNCOMBE COUNTY BOARD OF EDUCATION
GUIDELINES FOR RECRUITMENT AND SELECTION OF
MINORITY BUSINESS FOR PARTICIPATION IN SCHOOL CONSTRUCTION
CONTRACTS**

In accordance with G.S. 143-128, these guidelines establish goals for minority participation in single-prime and separate-prime school construction contracts. The legislation provides that public bodies shall have a verifiable percentage goal for participation by minority businesses in the total value of work for each project for which a contract or contracts are awarded. These guidelines are published to accomplish that end.

SECTION 1: INTENT AND APPLICATION OF GUIDELINES.

It is the intent of these guidelines that The Buncombe County Board of Education as awarding authority for school construction projects, and the contracts and subcontractors performing the construction contracts awarded, shall cooperate and in - food faith do all things legal, proper and reasonable to achieve the verifiable goal of 3.0% for participation by minority businesses in each construction project. Nothing contained in these guidelines shall be construed to require awarding authorities to award contracts to or to make purchase of materials or equipment from minority-business contracts who do not submit the lowest responsible bid or bids.

These guidelines shall apply to all contractors for the erection, construction, alteration, or repair of any buildings or other construction projects when the entire cost of such work shall exceed \$100,000.

SECTION 2: DEFINITIONS.

1. Minority - a person who is a citizen or lawful permanent resident of the United States and who is:
 - a. Black, that is, a person having origins in any of the black racial groups in Africa;
 - b. Hispanic, that is, a person of Spanish or Portuguese culture with origins in Mexico, South or Central America, or the Caribbean Islands, regardless of k race;
 - c. Asian American, that is, a person having origins in any of the original peoples of the Far East, Southeast Asia and Asia, the Indian subcontinent, the Pacific Islands;
 - d. American Indian or Alaskan Native, that is, a person having origins in any of the original peoples of North America; or
 - e. Female.

2. Minority Business - means a business:
 - a. In which at least fifty-one percent (51%) is owned by one or more minority persons, or in the case of a corporation, in which at least fifty-one percent (51 %) of the stock is owned by one of more minority persons; and

- b. Of which the management and daily business operations are controlled by one or more of the minority persons who owns it.
3. Owner - The Buncombe County Board of Education.
4. Bidder - Any person, firm, partnership, corporation, association, or joint venture seeking to be awarded a public contract or subcontract.
5. Contract - A mutually binding legal relationship, or any modification thereof obligating the Contractor to furnish labor, equipment, materials, or services for the erection, construction, alteration, or repair of any buildings or other construction projects and obligating the Owner to pay for them.
6. Contractor - Any person, firm, partnership, corporation, association, or joint venture which has contracted with the Owner to perform a Contract to which these guidelines apply.
7. Subcontractor - Any person, firm, partnership, corporation, association, or joint venture under contract with a Contractor for supplying materials or labor, equipment, materials, or services. The subcontractor may or may not provide materials in his subcontract. Work subcontracted in an emergency and which could not have been anticipated is excluded as part of this program.
8. Verifiable goal means:
 - a. For purpose of separate-prime contract system, that the Owner has adopted written guidelines specifying the actions that will be taken to ensure a good faith effort in the recruitment and selection of minority businesses for participation in contracts awarded; and
 - b. For purposes of single-prime contract system, that the Owner has adopted written guidelines specifying the actions that the prime contractor must take to ensure good faith effort in the recruitment and selection of minority businesses for participation in contracts awarded; the required actions must be documented in writing by the contractor to the Owner.

SECTION 3: RESPONSIBILITIES.

1. Minority Business Development Agency of the Small Business Development Division, North Carolina Department of Economic & Community Development (hereafter referred to as Minority Business Development Agency). The Minority Business Development Agency will establish a program in which it will certify to interested persons businesses which qualify as Minority Business Enterprises (MBE). The Minority Business Development Agency will be responsible for the following:

- a. Determine MBE certification, ie. that those certified are MBEs under GS 143-128 as a contractor and/or subcontractor.
- b. Identify those areas of work for which there are certified MBEs, as requested.
- c. Provide interested parties with a list of prospective certified MBE contractors and subcontractors.
- d. Assist in the determination of technical assistance in the certification program that needs to be provided.

In addition to being responsible for the participation of those small and emerging business that want to participate in the construction program, the Minority Business Development Agency will:

- 1) Maintain a current list of certified MBEs. The list shall include the areas of work in which each MBE is interested.
 - 2) From information furnished by the Owner publicize the contracting and subcontracting opportunities available for each construction project being advertised.
 - 3) Work with the North Carolina Association of Minority Businesses and the Carolinas Branch of the Association of General Contractors in developing and implementing a certification program intended to improve the ability of MBEs to compete in this program.
2. Owner/Buncombe County Board of Education: Under the single-prime contract system and the separate-prime contract system, the Owner will be responsible for, the following:
- a. For contracts in excess of \$500,000 in estimated costs, furnish to the Minority Business Development Agency, the Asheville-Buncombe Community Relations Council, and YMI, Inc., of Asheville a minimum of twenty-one (21) days prior to the bid opening the following:
 1. Project description and location;
 2. Locations where bidding documents may be reviewed;
 3. Name of representative of the Owner who can be contracted during the advertising period to advertise who the prospective bidders are;
 4. Date, time, and location of the bid opening; and
 5. Date, time, and location of pre-bid conference, if scheduled.
- The twenty-one (21) day advance time period may be reduced to ten (10) days for contracts in the range of \$100,000 to \$500,000 in estimated cost.
- b. The Owner Will request that the Minority Business Development Agency, the Asheville-Buncombe Community Relations Council, and YMI, Inc. notify MBEs of construction projects.

- c. The pre-bid conference, if scheduled, conducted by the representative of the Owner, will be open to all known and anticipated prime contracts, subcontractors, material suppliers, and other bidders. During the conference, this program, including the bidders' responsibilities, will be fully explained.
- d. The Owner will be responsible for reviewing the spent low bidders compliance with the items listed in the proposal that must be complied with if the bid is to be considered responsive and responsible. The Owner reserves the right to reject any and all bids and to waive informalities.
- e. Attend the scheduled prebid conference.
- f. Identify or determine the work areas of a contract where MBEs may have an interest in performing contract work.
- g. At least ten (10) days prior to the scheduled day of bid opening, the Owner will notified certified MBEs in the area of the project of potential contracting opportunities listed in the proposal. The notification will include the following:
 - 1. A description of the work for which the bid is being solicited.
 - 2. The date, time, and location where bids are to be submitted.
 - 3. The name of a representative of the Owner who will be available to answer questions about the Project.
 - 4. Where bid documents may be received.
 - 5. Any special requirements that may exist, such as insurance, licenses, bonds and financial arrangements.

If there are more than three certified MBEs in the area of the Project, the Owner shall notify three, but may contact more, if the Owner so desires.

- h. Maintain documentation of any contacts, correspondence, or conversations with MBE firms made in an attempt to meet the goals.

3. Prime Contractor(s)

Under the single prime contract system the prime contractor will:

- a. Attend the scheduled pre-bid conference.
- b. Identify or determine those work areas of a subcontract where MBEs may have an interest in performing subcontract work.

- c. At least ten (10) days prior to the schedule day of bid opening, notify certified MBEs of potential subcontracting opportunities listed in the proposal. The notification will include the following:
- 1) A description of the work for which the subbid is being solicited.
 - 2) The date, time, and location where subbids are to be submitted.
 - 3) The name of the individual within the company who will be available to answer questions about the project.
 - 4) Where bid documents may be reviewed.
 - 5) Any special requirements that may exist, such as insurance, licenses, bonds, and financial arrangements.

If there are more than three (3) certified MBEs in the area of the project, the contractors shall notify three (3), but may contact more, if the contractors so desires.

- d. During the bidding process, comply with the Owner's requirements listed in the contract documents for minority participation.
- e. Submit with the bid a description of that portion of the work to be executed by MBEs expressed as a percentage of the total contract price.
- f. Upon being named the apparent low bidder, provide the necessary documentation as listed in the contract documents provided by the Owner. Failure to comply with procedural requirements as defined in contract documents may render the bid as nonresponsive and may result in rejection of the bid and award to the next lowest responsible and responsive bidder.
- g. During the construction of a project, if it becomes necessary to replace an MBE subcontractor, advise the Owner.
- h. If during the construction of a project additional subcontracting opportunities become available, make a good faith effort to solicit bids from MBES.

4. MBE Responsibilities:

While MBE's are not required to become certified in order to participate in this program, it is recommended that they become certified and should take advantage of the appropriate technical assistance that is made available. In addition, MBE's who are contacted by the Owner or bidders should respond promptly whether or not they wish to submit a bid.

SECTION 4: DISPUTE PROCEDURES.

It is the policy of the Buncombe County Board of Education that disputes with another person that involve a person's rights, duties, or privileges, should be settled through informal procedures. To that end, MBE disputes arising under these guidelines should be resolved, if possible, by informal proceedings arranged by the Superintendent or his designee.

SECTION 5: EFFECTIVE DATE

These guidelines are effective on December 15, 1989.
Copies of these guidelines may be obtained from the Office of the Superintendent at 175 Bingham Road, Asheville, North Carolina, NC 28803; telephone number 704/255-5916.

SECTION 6: GUIDELINES AND COMPLIANCE DOCUMENTATION TO BE PART OF CONTRACT DOCUMENTS.

These guidelines will be included in the contract to each construction bid package and provisions for documenting contractual compliance in providing for MBE participation in the construction program %, Will be included in each construction bid package

**ADDITION TO SUPPLEMENTARY
GENERAL CONDITIONS**

APPLICATION:

The requirements of the Buncombe County Board of Education Guidelines for Recruitment and Selection of Minority Businesses for Participation in School Construction Contracts are hereby made a part of these contract documents. These requirements shall apply to all contractors regardless of ownership. A copy of the Buncombe County Board of Education Guidelines for Recruitment and Selection of Minority Businesses for Participation in School Construction Contracts is attached.

MBE SUBCONTRACT GOALS.

The goals for participation by Minority firms as subcontractors on this project have been set by the Buncombe County Board of Education (hereinafter Board) at 3.0%.

The Bidder shall provide, with the bid, documented proof in the form of MBE Form 1. MBE UTILIZATION COMMITMENT, that these goals have been met or exceeded;

OR

Provide, with the bid, MBE Form 1, MBE UTILIZATION COMMITMENT, identifying the amount of MBE participation; and prior to award, upon request, show evidence of good faith effort made prior to the bid opening to meet these goals;

OR

Provide, with the bid, MBE Form 2, CERTIFICATION REGARDING SUBCONTRACTING PRACTICES, and upon request, information sufficient for the Board to determine that the Bidder does not customarily subcontract work on this type project.

Failure to provide this evidence may result in rejection of the bid and award to the next low bidder.

MINIMUM COMPLIANCE REQUIREMENTS:

If the MBE subcontract goals are not achieved, the Bidder shall provide the following documentation to the Board.

1. MBE Utilization Commitment (MBE Form 1) with the bid.
2. Documentation of the Bidder's good faith efforts to meet the goals set forth in these provisions (upon request prior to award). This documentation shall include the following evidence:

- A. Copies of solicitations for quotes to at least three (3) MBE firms from the source list provided by the Minority -Business Development Agency of the Small Business Development Division, North Carolina Department of Economic & Community Development (hereinafter Minority Business Development Agency) for each subcontract to be let under this contract (if 3 or More firms are shown on the source list). Each solicitation shall contain a specific description of the work to be subcontracted, location where bid documents can be reviewed, representative of the Prime Bidder to contact, and location, date and time when quotes must be received.
- B. Copies of quotes or responses received from each firm responding to the solicitation.
- C. A telephone log of follow-up calls to each firm sent a solicitation.
- D. For subcontracts where an MBE firm is not considered to be the lowest responsible sub-bidder, copies of quotes received from all firms submitting quotes for that particular subcontract.
- E. Documentation of any contacts, correspondence or conversation with MBE firms made in an attempt to meet the goals.

Note: If the Bidder provides sufficient evidence (listed in #1) that the goals stated in the contract documents have been met, or awards all subcontracts to MBE'S, the documentation listed in #2 will not be required.

Upon being named apparent low bidder, the Bidder shall provide a Letter of Intent (MBE) Form 3), complete with a description of the scope of services and dollar value from each MBE firm proposed for use in this contract. Failure to provide the documentation as listed in these provisions may result in rejection of the bid and award to the next lowest responsible and responsive bidder. The Board reserves the right to waive any irregularities in MBE documentation if they can be resolved prior to award of the contract, and the Board finds it to be in its best interest to do so and award the contract.

SUBCONTRACTOR PAYMENT REQUIREMENTS:

North Carolina General Statute 143-134. 1, states that the percentage of retainage on payment made by the prime contractor to the subcontractor shall not exceed the percentage of retainage on payments made by the Board to the prime contractor. Failure to comply with this provision shall be considered a breach of the contract, and the contract may be terminated in accordance with the termination provisions of the contract.

The Contractor shall provide an itemized statement of payments to each MBE subcontractor with each request for payment or before final payment is processed.

PROGRAM COMPLIANCE REQUIREMENTS:

All written statements, certification or intentions made by the Bidder shall be come a part of the agreement between the Contractor and the Board for performance of this contract. Failure to comply with any of the these states, certifications, or intentions, or with the MBE Guidelines shall constitute a breach of the contract. A finding by the Board that any information submitted either prior to award of the contract or during the performance of the contract is inaccurate, false or incomplete, shall also constitute a breach of the contract. Any such breach may result in termination of the contract in accordance with the termination provisions contained in the contract. It shall be solely at the option of the Board whether to terminate the contract for breach.

In determining whether a contractor has made good faith efforts, the Board will evaluate all efforts made by the Contractor and will determine compliance in regard to quantity, intensity, and results of there efforts. The Board may take into account any or all of the following:

1. Whether the Bidder attended any prebid meetings that were scheduled by the Board;
2. Whether the Bidder advertised in general circulation, trade association, and minority-focus media concerning the subcontracting opportunities;
3. Whether the Bidder provided written notice to a minimum of three MBE's for each portion of the work subcontract, that their interest in the contract was being solicited in sufficient time to allow the MBE's to participate effectively;
4. Whether the Bidder followed up initial solicitations of interest by contacting MBE's to determine with certainty whether the MBE's were interested;
5. Whether the Bidder selected portions of the work to be performed by MBE's in order to increase the likelihood of meeting MBE goals (including, where appropriate, breaking down contracts into economically feasible units to facilitate MBE participation);
6. Whether the Bidder provided interested MBE's with adequate information about the plans, specifications and requirements of the contract;
7. Whether the Bidder negotiated in good faith with interested MBE's not rejecting MBE's as unqualified without sound reasons based on a thorough investigation of their capabilities.

APPENDIX E

MBE DOCUMENTATION FOR CONTRACT PAYMENTS

Prime Contractor/Architect: _____

Address & Phone: _____

Project Name: _____

Pay Application #: _____ Period: _____

The following is a list of payments made to Minority Business Enterprises on this project for the above-mentioned period.

MBE FIRM NAME	* INDICATE TYPE OF MBE	AMOUNT PAID THIS MONTH	TOTAL PAYMENTS TO DATE	TOTAL AMOUNT COMMITTED

*Minority categories: Black, African American (B), Hispanic (H), Asian American (A), American Indian (I), Female (F), Social and Economically Disadvantage (D)

Date: _____

Approved/Certified By: _____

Name

Title

Signature

SUBMIT WITH EACH PAY REQUEST & FINAL PAYMENT

Identification of Minority Business Participation

I, _____,
 (Name of Bidder)

do hereby certify that on this project, we will use the following minority business enterprises as construction subcontractors, vendors, suppliers or providers of professional services.

Firm Name, Address and Phone #	Work type	*Minority Category

*Minority categories: Black, African American (B), Hispanic (H), Asian American (A) American Indian (I), Female (F) Socially and Economically Disadvantaged (D)

The total value of minority business contracting will be (\$) _____.

State of North Carolina AFFIDAVIT A – Listing of Good Faith Efforts

County of _____

(Name of Bidder)

Affidavit of _____

I have made a good faith effort to comply under the following areas checked:

Bidders must earn at least 50 points from the good faith efforts listed for their bid to be considered responsive. (1 NC Administrative Code 30 I.0101)

- 1 – (10 pts)** Contacted minority businesses that reasonably could have been expected to submit a quote and that were known to the contractor, or available on State or local government maintained lists, at least 10 days before the bid date and notified them of the nature and scope of the work to be performed.
- 2 --(10 pts)** Made the construction plans, specifications and requirements available for review by prospective minority businesses, or providing these documents to them at least 10 days before the bids are due.
- 3 – (15 pts)** Broken down or combined elements of work into economically feasible units to facilitate minority participation.
- 4 – (10 pts)** Worked with minority trade, community, or contractor organizations identified by the Office of Historically Underutilized Businesses and included in the bid documents that provide assistance in recruitment of minority businesses.
- 5 – (10 pts)** Attended prebid meetings scheduled by the public owner.
- 6 – (20 pts)** Provided assistance in getting required bonding or insurance or provided alternatives to bonding or insurance for subcontractors.
- 7 – (15 pts)** Negotiated in good faith with interested minority businesses and did not reject them as unqualified without sound reasons based on their capabilities. Any rejection of a minority business based on lack of qualification should have the reasons documented in writing.
- 8 – (25 pts)** Provided assistance to an otherwise qualified minority business in need of equipment, loan capital, lines of credit, or joint pay agreements to secure loans, supplies, or letters of credit, including waiving credit that is ordinarily required. Assisted minority businesses in obtaining the same unit pricing with the bidder's suppliers in order to help minority businesses in establishing credit.
- 9 – (20 pts)** Negotiated joint venture and partnership arrangements with minority businesses in order to increase opportunities for minority business participation on a public construction or repair project when possible.
- 10 - (20 pts)** Provided quick pay agreements and policies to enable minority contractors and suppliers to meet cash-flow demands.

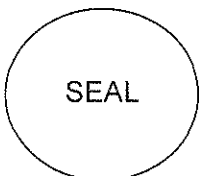
The undersigned, if apparent low bidder, will enter into a formal agreement with the firms listed in the Identification of Minority Business Participation schedule conditional upon scope of contract to be executed with the Owner. Substitution of contractors must be in accordance with GS143-128.2(d) Failure to abide by this statutory provision will constitute a breach of the contract.

The undersigned hereby certifies that he or she has read the terms of the minority business commitment and is authorized to bind the bidder to the commitment herein set forth.

Date: _____ Name of Authorized Officer: _____

Signature: _____

Title: _____



State of _____, County of _____

Subscribed and sworn to before me this _____ day of _____ 20____

Notary Public _____

My commission expires _____

State of North Carolina --AFFIDAVIT B-- Intent to Perform Contract with Own Workforce.

County of _____

Affidavit of _____

(Name of Bidder)

I hereby certify that it is our intent to perform 100% of the work required for the _____

_____ contract.

(Name of Project)

In making this certification, the Bidder states that the Bidder does not customarily subcontract elements of this type project, and normally performs and has the capability to perform and will perform all elements of the work on this project with his/her own current work forces; and

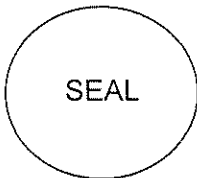
The Bidder agrees to provide any additional information or documentation requested by the owner in support of the above statement.

The undersigned hereby certifies that he or she has read this certification and is authorized to bind the Bidder to the commitments herein contained.

Date: _____ Name of Authorized Officer: _____

Signature: _____

Title: _____



State of _____, County of _____

Subscribed and sworn to before me this _____ day of _____ 20__

Notary Public _____

My commission expires _____

State of North Carolina - AFFIDAVIT C - Portion of the Work to be Performed by Minority Firms

County of _____

(Note this form is to be submitted only by the apparent lowest responsible, responsive bidder.)

If the portion of the work to be executed by minority businesses as defined in GS143-128.2(g) is equal to or greater than 10% of the bidders total contract price, then the bidder must complete this affidavit. This affidavit shall be provided by the apparent lowest responsible, responsive bidder within **72 hours** after notification of being low bidder.

Affidavit of _____ I do hereby certify that on the _____
(Name of Bidder)

Project ID# _____ (Project Name) Amount of Bid \$ _____

I will expend a minimum of _____% of the total dollar amount of the contract with minority business enterprises. Minority businesses will be employed as construction subcontractors, vendors, suppliers or providers of professional services. Such work will be subcontracted to the following firms listed below. Attach additional sheets if required

Name and Phone Number	*Minority Category	Work description	Dollar Value

*Minority categories: Black, African American (B), Hispanic (H), Asian American (A) American Indian (I), Female (F) Socially and Economically Disadvantaged (D)

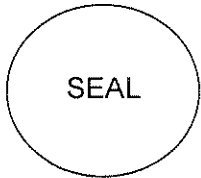
Pursuant to GS143-128.2(d), the undersigned will enter into a formal agreement with Minority Firms for work listed in this schedule conditional upon execution of a contract with the Owner. Failure to fulfill this commitment may constitute a breach of the contract.

The undersigned hereby certifies that he or she has read the terms of this commitment and is authorized to bind the bidder to the commitment herein set forth.

Date: _____ Name of Authorized Officer: _____

Signature: _____

Title: _____



State of _____, County of _____

Subscribed and sworn to before me this _____ day of _____ 20____

Notary Public _____

My commission expires _____

State of North Carolina AFFIDAVIT D – Good Faith Efforts

County of _____

(Note this form is to be submitted only by the apparent lowest responsible, responsive bidder.)

If the goal of 10% participation by minority business **is not** achieved, the Bidder shall provide the following documentation to the Owner of his good faith efforts:

Affidavit of _____ I do hereby certify that on the _____
 (Name of Bidder)

Project ID# _____ (Project Name) Amount of Bid \$ _____

I will expend a minimum of _____% of the total dollar amount of the contract with minority business enterprises. Minority businesses will be employed as construction subcontractors, vendors, suppliers or providers of professional services. Such work will be subcontracted to the following firms listed below. (Attach additional sheets if required)

Name and Phone Number	*Minority Category	Work description	Dollar Value

*Minority categories: Black, African American (**B**), Hispanic (**H**), Asian American (**A**) American Indian (**I**), Female (**F**) Socially and Economically Disadvantaged (**D**)

Examples of documentation that may be required to demonstrate the Bidder's good faith efforts to meet the goals set forth in these provisions include, but are not necessarily limited to, the following:

- A. Copies of solicitations for quotes to at least three (3) minority business firms from the source list provided by the State for each subcontract to be let under this contract (if 3 or more firms are shown on the source list). Each solicitation shall contain a specific description of the work to be subcontracted, location where bid documents can be reviewed, representative of the Prime Bidder to contact, and location, date and time when quotes must be received.
- B. Copies of quotes or responses received from each firm responding to the solicitation.
- C. A telephone log of follow-up calls to each firm sent a solicitation.
- D. For subcontracts where a minority business firm is not considered the lowest responsible sub-bidder, copies of quotes received from all firms submitting quotes for that particular subcontract.
- E. Documentation of any contacts or correspondence to minority business, community, or contractor organizations in an attempt to meet the goal.
- F. Copy of pre-bid roster.
- G. Letter documenting efforts to provide assistance in obtaining required bonding or insurance for minority business.
- H. Letter detailing reasons for rejection of minority business due to lack of qualification.
- I. Letter documenting proposed assistance offered to minority business in need of equipment, loan capital, lines of credit, or joint pay agreements to secure loans, supplies, or letter of credit, including waiving credit that is ordinarily required.

Failure to provide the documentation as listed in these provisions may result in rejection of the bid and award to the next lowest responsible and responsive bidder.

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

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

The undersigned hereby certifies that he or she has read the terms of this commitment and is authorized to bind the bidder to the commitment herein set forth.

Date: _____ Name of Authorized Officer: _____

Signature: _____

Title: _____



State of _____, County of _____

Subscribed and sworn to before me this _____ day of _____ 20____

Notary Public _____

My commission expires _____

DIVISION 1 - GENERAL REQUIREMENTS

A. PROJECT IDENTIFICATION

General: The Work consists of a Single Prime Contract for the Erwin High School E Wing Roof Replacement, 27,220 Sq. Ft.

The work is shown on the Contract Documents prepared by Cort Architectural Group, P.A. Drawings and specifications are dated January 31, 2012. Drawings are as listed on the Title Sheet of the drawings. Specifications are listed in the Table of Contents of the Project Manual, showing divisions and related sections.

In accordance with NC General Statutes 143-128, this project will be bid using the single prime system.

Single Prime Bids will be received for all work shown or described.

Single Prime bidders must identify on their bid the Subcontractors they have selected for the subdivisions or branches of work for:

Roofing Subcontractor.

The award of the contract may be made to the lowest responsible bidder, such responsibility to be determined by the Owner, except that the Owner retains the right to reject any or all bids for any or no reason.

Wherever reference is made in the Contract Documents to Prime Contractor or Contractor it shall mean General Contractor.

The Owner may, at his discretion, award other separate contract for work on the site while the work being performed under the contracts listed above is in progress. The Contractor shall coordinate his work with all other contractors who may be working at the site and shall fully cooperate with them.

B. PRE-BID CONFERENCE

A PROJECT PRE-BID CONFERENCE WILL BE HELD ON FEBRUARY 23, 2012 AT 9:00 AM IN THE EXECUTIVE CONFERENCE ROOM OF THE BUNCOMBE COUNTY BOARD OF EDUCATION OFFICES, 175 BINGHAM ROAD, ASHEVILLE, NORTH CAROLINA. BIDDERS ARE URGED TO ATTEND THIS CONFERENCE.

C. CONSTRUCTION TIME

General: The Contractor shall commence construction work to be performed under this agreement on a date to be specified in a written order from the Architect and shall fully complete all work hereinunder within 120 consecutive calendar days from written Notice to Proceed.

Time is of the essence with respect to this contract and a material consideration thereof.

The construction time given is to Substantial Completion. After Substantial Completion the Contractor shall complete all work and submit all Closeout Documents within 30 calendar days. Final completion shall be defined as the date of acceptance by the Owner but in no case shall occur prior to completion of all punch list items.

See General Conditions and Supplementary Conditions of the Contract, regarding construction schedule, delays and extensions of time.

See paragraph J. for phasing requirements.

D. QUALIFIED BIDS

Qualified bids: Qualified bids will not be acceptable.

Taxes: Bids shall include all taxes and, in particular, North Carolina and local sales and use taxes.

The Contractor shall complete the Contractor's Sales Tax Report Form included at the end of this section and submit it monthly with his Application for Payment.

E. BID WITHDRAWAL

All prime bidders are hereby notified that in accordance with G.S. 143-129.1, "Withdrawal of Bids", a public agency may allow a bidder to withdraw his bid from consideration after the bid opening without forfeiture of his bid security if the price bid was based upon a mistake which constituted a substantial error, provided the mistake was clerical in nature as opposed to judgment error. A request to withdraw a bid under this statute must be made in writing to the public agency which invited the proposals for the work prior to the award of the contract, but not later than 72 hours after the opening of bids.

F. BID SECURITY

Separate bid security in its original form is required for the bid submitted. If a bid bond is offered as a bid security, bidders shall detach and use the Bid Bond form incorporated in the specifications or use a proper North Carolina bid bond. AIA bid bond forms are not acceptable.

G. BID SUBMITTAL AND OPENING PROCEDURES

All bids shall be made on the forms furnished by the Architect. Duplicate copies of the Form of Proposal and Bid Bond form are incorporated in the specifications. One copy of each of these bid documents (Form of Proposal and Bid Bond form) is to be detached from the specifications and the bid proposal be made using the detached documents. Detachment will allow the Contractor (bidder) to retain the intact specifications in his possessions on the bid date. The Contractor (bidder) is cautioned that all spaces on the Form of Proposal must be fully completed, including all Alternates (Reference Article 4.1.5 of the Instructions to Bidders), and that the Form of Proposal must be Properly signed with the names of the Company, and its authorized representatives, and shall be fully executed in all respects.

Bids shall be submitted in a two (2)-envelope system. The outer envelope shall bear the project name which is Erwin High School E Wing Roof Replacement and it shall be sealed and addressed to the Owner, The Buncombe County Board of Education, Asheville, North Carolina. The name, address, and license number of the bidder, shall also be shown on the outside. The outer envelopes of bids delivered by mail shall bear the following caution:

"Buncombe County Schools, Erwin High School E Wing Roof Replacement, Asheville, North Carolina, Bid Enclosed, DO NOT OPEN until 2:00 PM March 7, 2012."

The outer envelope shall contain the following:

1. Bid Security
2. Certification of receipt of addenda, written on Contractor's letterhead.
3. A sealed smaller envelope containing the proposal and marked on the outside, "PROPOSAL". This envelope should also contain the project name and the name, address and license number of the bidder. Attached to the proposal shall be MBE Form 1, Affidavit A, Affidavit B and Affidavit D.

Bids shall be received by the Owner or his representative at the place of and prior to the time for opening bids.

Bid opening procedures shall be observed as follows:

1. The bid openings will be open to all interested parties.
2. Bid tabulation forms will be prepared by the Architect and will be provided to all interested parties attending the bid opening. Forms will contain the names of the prospective bidders and blank spaces for recording the bidders license number, bid security, base bid and Alternates, if any. Spaces for unit prices will not be provided.
3. Approximately five (5) minutes prior to the designated time for receiving bids, the Architect will announce the "official time" that will be used in declaring the bidding closed.
4. At the designated time for receiving bids, the bidding will be declared and no bids will be accepted after the announced closing.
5. Modification of a bid will not be accepted unless it is delivered to the Owner and/or his representatives at the place of and prior to the time for opening bids. Such modification will only be accepted when it is in writing properly authorized by the bidder in the same manner as the proposal. Refer to Article 4.4.2 of the Instructions to Bidders. Refer also to Article 13, subparagraph 13.3.1 of the Supplementary General Conditions.
6. After the announced bid closing, the Architect will proceed as follows:
 - Determine that at least three (3) bids (sealed envelopes) have been received. Should there not be three, bids will not be opened. The bids will be returned to the bidders and they will be requested to submit a bid proposal with a re-advertisement.
 - Announce the number of addenda issued for all trades, if any, and such addenda will be read if requested.
 - Inquire if any bidder desires any clarification of the plans and specifications.
 - Ask if anyone has any objections to proceeding with the opening of the bids. If anyone objects to proceeding, the following alternatives will be followed:
 - Attempt to satisfy the objection; or secure complete information as to the objection and proceed with opening of bids under protest for later disposition by proper authority; or,
 - Rule the objection as informal and proceed with the opening of bids.
 - Correct the Bid Tabulation form, adding or deleting bidders as circumstances require.
7. Since this is a public bid opening, the bids will be read aloud to the assembled group. The following order will be observed:
 - The outer envelopes of all bidders will be opened prior to reading any "Proposals". Prior to opening an outer envelope, the name of the bidder and license number or the bidder as it appears on the enveloped will be announced to the assembled group.
 - With the opening of the bidder's outer envelope, a preliminary determination will be made that bid security and other required certifications are enclosed with the bid.
 - If all of the required material is not with at least three (3) of the bids, the sealed envelopes marked "Proposal" will not be opened.

- If it is determined that the contents of at least three (3) of the outer envelopes appear to be in order, the sealed envelopes containing the bid proposals shall be opened and the bids read aloud. After such determination, the remaining bids will be opened and read aloud without first making a preliminary determination as to the adequacy of bid security.

H. CONTRACTOR'S USE OF PREMISES

1. General: The Contractor shall limit his use of the premises to the work indicated.
2. Restrictions:
 - a. Employees of the contractor and his Subcontractors are prohibited from using the Owner's toilets and telephones. No tobacco products of any type may be used on the property.
 - b. Employees of the contractor and his Subcontractors are also prohibited from using vulgar language within close proximity of school students and staff.
 - c. The use of radios within close proximity of existing classrooms while school is in session is prohibited. The Contractor will be advised by the Owner in the event that classrooms are disturbed by such noise and the contractor shall remove the source of the disturbance immediately.
 - d. Firearms and other dangerous weapons are strictly forbidden on these campuses and construction sites. Violators will be prosecuted to the fullest extent of the law.
3. Use of the Site: Confine operations at the site to the areas permitted under the Contract. Portions of the site beyond areas on which work is indicated are not to be disturbed. Conform to site rules and regulations affecting the work while engaged in project construction. The Contractor shall be permitted to have one storage trailer on site and one each for the Plumbing, Mechanical and Electrical Subcontractors. The Project Expediter's storage trailer, if required by other sections of this document, shall be of sufficient size to contain the field office and a conference area large enough to seat the entire Project Team for monthly construction conferences.

Keep existing driveways and entrances serving the premises clear and available to the owner, his employees, students, visitors and other Contractors at all times. Do not use these areas for parking or storage of materials.

Do not unreasonably encumber the site with materials or equipment. Confine stockpiling of materials and location of storage sheds to areas agreeable with the Owner. The Owner will designate the area to be held for storage trailers. If additional storage is necessary, obtain and pay for such storage off-site. Materials stored on site are at Contractor's own risk.

Lock automotive type vehicles such as passenger cars and trucks, and other types of mechanized and motorized construction equipment, when parking and unattended, so as to prevent unauthorized use. Do not leave such vehicles or equipment unattended with the motor running or the ignition key in place.

Heavy Equipment, having accessory apparatus that can be raised above the ground, shall be left with the apparatus resting upon the ground and keys removed at any time the construction site is not supervised.

4. Use of the Existing Buildings: Allow the Owner occupancy and use by the public during construction. Maintain the existing buildings in a watertight condition throughout the construction period. Repair damage caused by construction operations without additional cost to the Owner. Take all precautions necessary to protect the buildings, their occupants and their contents during the construction period.

I. OWNER OCCUPANCY

General: The owner will occupy the site and existing buildings during the entire construction period. Cooperate with the Owner during construction operations to minimize conflicts and facilitate Owner usage. Perform the work so as not to interfere with the Owner's operations. Interruption of building access, services, and function by the Contractor will not be permitted without prior approval of the Owner. Construction operations must be limited to those methods which will not adversely affect the Owner's working environment. Noise, vibration, dust, odors, air pollution, heating and air conditioning discomfort, poor lighting, hazards, or other undesirable conditions will not be permitted to affect operation of the existing buildings.

J. PHASING OF THE WORK

1. Commencement of Work: A Preconstruction Conference will be held immediately upon execution of contracts. Construction shall begin upon receipt of a written order from the Architect to proceed with construction. A Notice to Proceed is anticipated to be issued on May 2, 2012.
2. Preconstruction Phase extending 30 calendar days from May 2, 2012 to June 1, 2012 is the time allotted after the Notice to Proceed for processing of Shop Drawings, other approvals, and purchase and delivery of materials. The Contractors may not access the site during the Preconstruction Phase without written approval of the Owner. End of year student testing will be in progress.
3. Construction Phase extending 90 calendar days from June 1, 2012 until August 29, 2012 is allocated for all demolition, all new work, and placing the mechanical ventilation system in operation. All work except for Punch List items shall be completed within the Contract Time.
4. Post Construction Phase extending 30 calendar days from August 29 until September 27 shall be for completion of all Punch List items and completion of construction project documentation. See Supplementary General Conditions 8.4.5 for Liquidated Damages.
5. General: The Contractor shall phase the work to minimize disruption. Note that weekend and evening work may be required to fulfill the requirement for Owner use during construction.

The Contractor shall coordinate utility interruptions giving not less than 7 days first notice and 72 hour second notice.

Maintain operation of adjacent spaces and utilities. Do not block access to fire exits.

6. Public Space and Access: Sequence sub-grade work, site work, and street-level work so that sidewalks and streets outside of staging area will be open to traffic.
7. Phasing: The Contractor may work the entire project as a single phase.

K. PROJECT EXPEDITER

General: The contract for General Construction Work includes coordination of the entire work of the project and all Subcontractors, including schedules and control of site utilization from the beginning of construction activity through project closeout and warranty periods. The General Contractor is designated as the Project Expediter.

L. CONSTRUCTION FENCING

The General Contractor shall furnish and install construction fencing and gates around any staging or storage areas. This fence shall be six-foot (6') high chain link type with top rail and maximum ten foot (10') post spacing. See plans for approximate locations. Coordinate exact locations with Owner.

Furnish padlocks for all gates. The construction fencing shall be removed by the General Contractor at the completion of this project and shall become the property of the General Contractor. Exact location for construction fences shall be coordinated with the Owner.

Temporary construction fencing shall in no manner, obstruct the free flow of emergency egress traffic from the building.

M. TEMPORARY STRUCTURES, UTILITIES, AND SERVICES

1. Scaffolding, Runways, Ramps, Ladders, Etc. The General Contractor shall supply, erect, maintain, and remove upon completion of the work all scaffolding, runways, rams, and ladders required for the common use of all trades. Subcontractors and other Contractors shall supply, erect, maintain, and remove upon completion of their work, all scaffolding required for their particular phase of the work.
2. Lines and Levels. The General Contractor shall employ a registered engineer or registered surveyor acceptable to the Architect to establish all construction lines, grades, and levels.
3. Temporary Structures. The General Contractor is NOT required to erect a temporary field office. He shall provide a project manager and/or a field superintendent, who shall maintain cell telephone services at all times during the construction period. If the contractor opts to install a field office, it shall be in a sound, waterproof, and shall be removed from the premises upon completion of construction.

Locations of all temporary structures and storage sheds shall be coordinated with the Architect.

4. Sanitary Facilities. The General Contractor shall provide the necessary portable sanitary facilities for use by all persons performing work at the site. Use of the Owner's facilities is prohibited.
5. Water. The General Contractor shall consult with the Owner in regard to water supply. Water for use by all trades shall be paid for by the Owner. Any expense of securing water shall be borne by the General Contractor. The source of water shall be approved by the Owner. Abuse of this water privilege shall cause termination of its free supply, and the contractor shall, upon notice by the architect, commence payment to the owner for water usage or secure independent service to the construction site.
6. Electricity. The General Contractor shall consult with the Owner in regard to temporary electrical service. Any expense of securing construction of electrical service from the source of supply shall be

borne by the General Contractor. The General Contractor shall furnish, maintain, and pay for all temporary construction power distribution panels and sufficient outlets throughout the project spaced no greater than 100 feet apart and wired per current edition of National Electrical Code, and for temporary lighting for construction. The source of electrical service shall be approved by the Owner. Owner will pay for the cost of all electrical energy metered through the Owner's Electricity Metering System. Abuse of this electrical privilege shall cause termination of its free supply, and the contractor shall, upon notice by the architect, commence payment to the owner for electrical usage or secure independent service to the construction site.

Temporary lights shall be equipped with guards and not suspended by their cords, unless so approved by the Electrical Inspector. Permanent light equipment may be used for this purpose, but must be thoroughly cleaned at the completion of the job by the General Contractor and new lamps installed.

New lamps installed after permanent power has been turned on and used for construction lighting need not be replaced.

Walkways shall be kept clear of cords. Extension cords shall be grounding type and without splices.

All switches and disconnects shall be plainly marked.

Temporary lighting shall maintain a level of five (5) foot candles in all construction areas.

7. Heat. The General Contractor shall provide necessary heat as required before the building is closed or as directed by the Architect. The General Contractor shall close all exterior openings, and keep same closed until permanent enclosures are in place and while the building is being heated. Temporary heat shall be kept in operation as required, or as directed by the Architect.

The General Contractor shall pay the cost of all temporary radiators required for heating of the building as herein specified, provided heat is required before the scheduled building radiation has been installed, and the General Contractor shall pay for all fuel required for temporary heat. Wherever it is possible so to do, the permanent heating system will be used to provide heat during construction.

If temporary heat is required for the protection of the work before the permanent heating plant is made available for use, the General Contractor shall provide approved heating apparatus, and shall provide adequate and proper fuel and shall maintain heat as required for protecting and drying out work. No portable combustion type heaters shall be used after painting or other finish work is started. As soon as the permanent heating apparatus is installed, the General Contractor may use it for providing heat in the building, but must furnish the necessary fuel, and must also furnish an acceptable fireman and pay for or make good any damage resulting from its use and leave it in new condition, including a new set of filters. Temporary filters shall be installed over all returns and shall be replaced with sufficient frequency to ensure that dust does not enter the duct work or air handlers.

Warranty on mechanical system shall begin on the date of completion, not on the date the system is turned on for temporary heat or testing.

Fuel, electricity, and service for test operations of the mechanical system are a part of this Contract and the cost of such operations shall be borne by the contractor.

Whenever any heating apparatus is in use, the General Contractor shall keep at least one man who is familiar with its operation on the premises. Remove portable heaters from the building when they are not in actual use.

8. **Signs.** Directional signs may be erected on the Owner's property subject to approval of the Owner with respect to size, style, and location of directional signs. Such signs may bear the name of the Contractor and a directional symbol. No other signs will be permitted except by permission of the Owner.

N. PROJECT SAFETY

The Contractor shall adhere to the rules, regulations and interpretations of the North Carolina Department of Labor relating to Occupational Safety and Health Standards for the Construction Industry (Title 29, Code of Federal Regulations, Part 1926) which are hereby incorporated in these specifications.

The Contractor shall be responsible for the construction site during the performance of the work and shall provide all necessary safety measures and shall fully comply with all federal, state, and local laws, building codes, rules and regulations to prevent accidents or injury to persons or property on or about the location of the work. The utmost care shall be taken by the Contractor not to cause any damage to persons or properties on or about the site; and the utmost care shall be exercised by the Contractor to protect all persons, particularly children, and property from harm until the Project is fully completed and accepted by the Owner.

O. SUBSTITUTIONS

All requests for substitutions shall be submitted to the Architect at least ten (10) days prior to bidding. Substitutions not approved in writing prior to bidding will not be considered.

After contract award, Subcontractors and material suppliers shall submit proposed materials for approval only through the Contractor and shall not come directly to the Architect. All approvals will be handled entirely through the Contractors.

P. SUBCONTRACTORS AND SUPPLIERS

The successful bidders shall, within 72 hours of Receipt of Bids and prior to Contract Award, submit to the Architect for review the names of all Plumbing, Mechanical and Electrical and any Roofing Subcontractors and major suppliers he proposes to employ and the branches of work they will perform to determine their qualifications.

Q. SAMPLES

Samples of materials and equipment as required shall be furnished for the Architect's review. These shall remain the Contractor's property and shall be removed by him after they have been reviewed or ceased to be useful.

R. SHOP DRAWINGS

In addition to the requirements of the General Conditions, with respect to Shop Drawings, the following conditions apply. The Contractor shall provide the Architect with complete shop drawings, as hereinafter set out in the specifications, and sufficient time shall be allowed between the receipt of such shop drawings and their return to the Contractor to allow for their comparison with the original Contract Documents, any change order which have been issued, or any necessary changes required for proper coordination with other trades.

Where practicable, markings of items shall be so coded that "shop marks" agree with "Architect's Mark".

The Contractor shall check shop drawings carefully against drawings, specifications, field conditions, and adjacent work, and when he is satisfied that they are correct, shall mark them accordingly before submitting them to the Architect. Shop drawings received by the Architect that do not bear the Contractor's stamp of approval will be immediately returned to the Contractor without review by the Architect. Delay caused by shop drawings being returned because of incomplete or inaccurate information or for lack of Contractor's approval stamp will not be grounds for an extension of time.

Acceptance of material on the basis of shop drawings, samples, brochures, and other materials submitted, shall be understood to be conditional on the acceptability of the actual material incorporated into the building. The inclusion into the work of the material which may at a later date be disclosed to be unsuitable for job conditions or not in conformity with samples, brochures, shop drawings, or materials submitted, shall be at the risk of the Contractor.

In general, the following numbers of sets of shop drawings shall be submitted in addition to those required by the Contractor for his own use:

General Contractor: 3

Whenever possible, shop drawings shall be submitted in reproducible (sepia) form, Architect will check sepia, run copies necessary for his use, and return sepia to the Contractor. The Contractor shall reproduce shop drawings as required for distribution to other parties.

S. MAINTENANCE MANUALS

Organize operating and maintenance data into suitable sets of manageable size. Bind properly indexed data in individual heavy-duty 2-inch, 3-ring vinyl-covered binders, with pocket folders for folded sheet information.

Mark appropriate identification on front and spine of each binder. Include the following types of information:

- Emergency instructions.
- Spare parts list.
- Copies of warranties.
- Wiring diagrams.
- Recommended "turn around" cycles.
- Inspection procedures.
- Shop Drawings and Product Data.
- Fixture lamping schedule.

T. PROGRESS AND SCHEDULING

The Contractor shall carry out the work as expeditiously as possible, planning ahead and scheduling work with Subcontractors and material dealers to avoid conflicts and delays. Samples and shop drawings shall be submitted in sufficient time to permit checking, returning for correction if necessary, and resubmitted, and ordering of material.

U. CONSTRUCTION SCHEDULE

1. Bar-Chart Schedule. The General Contractor, in consultation with all major Subcontractors, shall prepare a fully developed, horizontal bar chart type Contractor's construction schedule for the Project detailing

how the work will be accomplished. Submit within 20 days of the date of Notice to Proceed.

The Contractor shall carry out the work as expeditiously as possible, planning ahead.

Provide a separate time bar for each significant construction activity. Provide a continuous vertical line to identify the first working day of each week. Use the same breakdown of units of the work as indicated in the "Schedule of Values."

Within each time bar indicate estimated completion percentage in 10 percent increments. As work progresses, place a contrasting mark in each bar to indicate Actual Completion.

Prepare the schedule on a sheet, or series of sheets, of stable transparency, or other reproducible media, of sufficient width to show data for the entire construction period. Secure time commitments for performing critical elements of the work from parties involved. Coordinate each element on the schedule with other construction activities; include minor elements involved in the sequence of the work. Show activity in proper sequence. Indicate graphically sequences necessary for completion of related portions of the work.

Indicate completion in advance of the date established for Substantial Completion. Indicate Substantial Completion on the schedule to allow time for the Architect's procedures necessary for certification of Substantial Completion.

The Contractor shall coordinate his schedule of values, list of subcontracts, submittal schedule, progress reports, payment requests and other schedules with the Construction Schedule.

2. Phasing. Provide notations on the schedule to show how the sequence of the work is affected by requirements for phased completion to partial occupancy by the Owner prior to Substantial Completion.
3. Work Stages. Indicate important stages of construction for each major portion of the work, including testing and installation.
4. Area Separations. Provide a separate time bar to identify each major construction area for each major portion of the work. Indicate where each element in an area must be sequenced or integrated with other activities.
5. Cost Correlation. At the head of the schedule, provide a two item cost correlation line, indicating "precalculated" and "actual" costs. On the line, show dollar volume of work performed as of the dates used for preparation of payment requests.
6. Distribution. Following response to the initial submittal, print and distribute copies to the Architect, Owner, other major Subcontractors and other parties required to comply with schedule dates. Post copies in the temporary field office. When revisions are made, distribute to the same parties and post in the same location. Delete parties from distribution when they have completed their assigned portion of the work and are no longer involved in construction activities.
7. Schedule Updating. Revise the schedule after each meeting or activity, where revisions have been recognized or made. Issue the updated schedule concurrently with report of each meeting.
8. Approval. Initial construction schedule and schedule updates shall be approved by the Owner.

V. SCHEDULE OF VALUES

The Contractor shall coordinate preparation of the Schedule of Values with preparation of the Contractor's Construction Schedule.

Submit the Schedule of Values to the Architect at the earliest feasible date, but in no case later than 14 days before the date scheduled for submittal of initial Application for Payment.

Format and Content. Use the Project Manual Table of Contents as a guide to establish the format for the Schedule of Values.

A separate Schedule of Values shall be prepared for each portion of phased construction.

Provide a detailed breakdown of the Contract Sum to facilitate continued evaluation of Applications for Payment and progress reports. Break subcontracts and work categories into line items to show materials, equipment and labor costs.

Round amounts off to the nearest whole dollar. The total shall equal the Contract Sum.

Margins of Cost. Show line items for indirect costs, and margins on actual costs, only to the extent that such items will be listed individually in Applications for Payment. Each item in the Schedule of Values and Application of Payment shall be complete including its total cost and proportionate share of general overhead and profit margin.

At the Contractor's option, temporary facilities and other major cost items that are not direct cost of actual work-in-place may be shown as separate line items in the Schedule of Values or distributed as general overhead expense.

Schedule Updating. When Change Orders or Construction Change Directives result in a change to the Contract Sum, add these to the Schedule of Values as a separate line item.

Approval. Schedule of Values shall be approved by the Owner.

W. CONSTRUCTION CONFERENCES

Prior to starting construction, a conference will be held at the sites for the purpose of verifying general construction procedures, expediting the handling of shop drawings and schedules, and to establish a working understanding between all parties concerned. Present at the conference shall be a responsible representative of the Contractor, each major Subcontractor, the job superintendent, and representatives of the Owner. The time of the conference shall be agreed upon by all parties. In addition, monthly construction conferences involving the same parties will be held. A mutually agreeable time will be established for these meetings. A copy of the minutes of each meeting shall be sent to all parties.

X. SITE CONDITIONS

A roof investigation has been conducted by Facility Consulting Group. Refer to the attached existing roof test cut report at the end of this Division. This report is for information only and is not a part of the Contract.

Y. EXISTING UTILITIES

The Contractor shall comply with provision of "Underground Damage Prevention Act" enacted by NC General Assembly (hereinafter referred to as "the Act"). Use care to avoid damaging any underground utilities, especially those in any public right-of-way or private easement owned by a utility company. Note such underground utilities shown on drawings, if any. Those shown do not necessarily represent all that may occur.

The Contractor shall be responsible for the protection of underground and overhead utilities in his work area which are shown on the Drawings and/or which can be detected by a visual inspection of the job site. The Contractor is cautioned, however, that there may exist unknown underground utilities neither visible nor shown on the Drawings. The Contractor shall take all reasonable precautions to detect and preserve the services which these utilities provide.

Z. WEATHER

The Contractor shall bear full responsibility for damage caused by weather or storm to any part of the complete work and materials included in or forming part of this contract. He shall provide all protection, guards, braces, etc., required and shall make good in an approved manner at this own expense, any and all damage so caused.

AA. OPENINGS AND PATCHING

The Contractor shall lay out the necessary openings where required for his work and that of his Subcontractors and shall be responsible for cutting and patching such openings.

In no case shall the Contractor impair the strength or stability of any structure by any such openings.

Cutting and patching shall be done by workers skilled in the trade. All affected areas are to be patched with materials similar to adjacent surfaces.

BB. CARE OF MATERIALS

All materials and equipment delivered to job shall be handled, stored, and maintained in such manner as to thoroughly protect them from damage. The Contractor shall provide suitable storage for all materials subject to damage from exposure. All material shall be placed in orderly piles or stacks and shall not be so placed as to damage trees, shrubs, paving, existing equipment, or other plants.

CC. PROTECTION OF WORK

The Contractor is responsible for the protection of his work and existing work until final acceptance of the work and shall take precautions to prevent damage to existing work or work performed under the contract. If existing work or work performed under this contract is damaged, the contractor will be held responsible. It will be the responsibility of the Contractor to repair, replace or restore the work to an acceptable condition.

DD. ACCEPTANCE OF SUBSTRATES

The Contractor or appropriate Subcontractor is responsible for inspecting the work which precedes his work and reporting any deficiencies which will affect his work to the Architect prior to beginning new work. Commencement of new work over preceding work constitutes the Contractor's or Subcontractor's acceptance of preceding work.

EE. COORDINATION

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

Work in connection with installation of an item shall be coordinated with all other affected work and trades. Sleeves, anchors, and other items that must be embodied in or that otherwise affect other portions of the work shall be located and set while such portions of the work are in progress. Each Subcontractor shall be responsible for setting sleeves required for his Scope of Work.

FF. DIMENSIONS

Prints do not reproduce from tracings with sufficient accuracy to permit scaling; therefore, dimensions shall be calculated by the Contractor and compared with dimensions shown rather than scaled.

GG. RECORD DRAWINGS

During the entire construction period, the General Contractor shall maintain a clean set of drawings for recording as-built conditions where they differ from the layout details shown on the drawings. Such changes in the work shall be recorded by the Contractor and each Subcontractor as they occur and shall be kept current and reviewed at each construction conference. Monthly payment to Contractor will be withheld in the absence of up to date record drawings.

Prior to final close-out of the job, the as-built marked-up prints shall be turned over to the Architect in good condition.

HH. PROJECT CLOSE-OUT

1. Final Cleaning:

- a. General. General cleaning during construction is required by the General Conditions.
- b. Cleaning. The Contractor shall employ experienced workers or professional cleaners for final cleaning of his portion of the work. Clean each surface or unit to the condition expected in a normal, commercial building cleaning and maintenance program. Comply with manufacturer's instructions.

Complete the following cleaning operations before requesting inspection of Certification of Substantial Completion.

Remove labels that are not permanent labels.

Clean transparent materials, including mirrors and glass in doors and windows. Remove glazing compound and other substances that are noticeable vision-obscuring materials. Replace chipped or broken glass and other damaged transparent materials.

Clean exposed exterior and interior hard-surfaced finishes to a dust free condition, free of stains, films and similar foreign substances. Restore reflective surfaces to their original reflective condition. Leave concrete floors vacuum clean. Vacuum carpeted surfaces. Wax tile or other floors where called for.

Wipe surfaces of mechanical and electrical equipment. Remove excess lubrication and other substances. Clean plumbing fixtures to a sanitary condition. Clean light fixtures and lamps.

Clean the site, including landscape development areas, of rubbish, litter and other foreign substances. Sweep paved areas broom clean; remove stains, spills and other foreign deposits. Rake grounds that are neither paved nor planted, to a smooth even textured surfaces.

c. Removal of Protection. The Contractor shall remove temporary protection and facilities installed for protection of the work during construction.

d. Compliance. The Contractor shall comply with regulations of authorities having jurisdiction and safety standard for cleaning. Do not burn waste materials. Do not bury debris or excess materials on the Owner's property. Do not discharge volatile, harmful or dangerous materials into drainage systems. Remove waste materials from the site and dispose of in a lawful manner.

Where extra materials of value remaining after completion of associated work have become the Owner's property, arrange for disposition of these materials as directed.

2. Personnel Instruction:

The Contractor shall arrange with the Architect for qualified subcontract persons to meet with Owner for thorough demonstration of proper operating procedures for all items of equipment and systems including detailed, on-site staff training in the operation and maintaining of the sound and light boards and other theater equipment. Instruct Owner in proper operating and maintenance procedures, using information compiled for operating and maintenance data manuals. Comply with further requirements for personnel instruction specified in technical sections of these specifications.

Arrange for each installer of equipment that requires regular maintenance to meet with the Owner's personnel to provide instruction in proper operation and maintenance. If installers are not experienced in procedures, provide instruction by manufacturer's representatives. Include a detailed review of the following items:

- Maintenance manuals.
- Record documents.
- Spare parts and materials.
- Tools.
- Lubricants.
- Fuels.
- Identification systems.
- Control sequences.
- Hazards.
- Cleaning.
- Warranties and bonds.
- Maintenance agreements and similar continuing commitments.

As part of instruction for operating equipment, demonstrate the following procedures:

- Start up.
- Shut down.
- Emergency operations.
- Noise and vibration adjustments.

- Safety procedures.
- Economy and efficiency adjustments.
- Effective energy utilization.

3. FINAL DOCUMENTS:

Applicable items from the following list shall be submitted by the Contractor prior to final payment:

- Final Certificate and Release Document (sample bound in back of specifications) properly completed by corporate/company officials and corporate seal affixed.
- Consent of Surety Company to Final Payment Document (AIA Document G707) obtained from insurance company.
- Applicable Power of Attorney Document to accompany Consent of Surety and dated the same date obtained from insurance company.
- Final Application and Certificate for Payment Document (AIA Document G702).
- Certificate (s) of Compliance with State Building Code from the Buncombe County Building Inspection Division.
- Warranty documents.
- All maintenance manuals.
- Record Drawings.
- Sales Tax Report.
- Appendix E, MBE Documentation for Contract Payments.

II. ALTERNATES

All bidders shall provide separate prices as provided on the proposal form for base bid and alternates. The Owner may elect to accept the base bid only or the base bid along with any combination of alternates. Any alternate that results in a reduction in the Base Bid shall be so noted in the Contractor's Proposal Form. Alternates for this project are as follows:

Alternate No. 1: Change tapered rigid roof insulation included in the base bid; provide cellular lightweight insulating concrete as indicated in Section 03521.

Alternate No. 2: Under Base Bid ductwork materials may be reused. Under Alternate No. 2, all ductwork above roof shall be new per specifications.

JJ. ALLOWANCES

The Contractor shall include the allowances listed below in his bid. Allowances include applicable state and local taxes and other items noted. The Contractor shall add overhead, profit and installation costs to the allowances and include them in his bid. Should the actual cost of items be less than the allowance, the Owner will be credited. Should the actual cost of items be more than the allowance, the Contractor will be reimbursed.

No Allowances

KK. UNIT PRICES

Each bidder shall quote unit prices in the spaces provided on the proposal form. Unit prices quoted and accepted shall apply throughout the life of the contract, except as otherwise specifically noted. Unit prices shall be applied, as appropriate, to compute the total value of changes in the Scope of the Work, all in accordance with the Contract Documents.

No Unit Prices

HH. PERMITS

Construction permits shall be applied for and paid for by the General Contractor. Construction permits shall be secured through the Buncombe County Inspections Department and must remain posted at the construction site at all times. Demolition permits are required by the Western North Carolina Air Quality Office and shall be secured and the waiting period recognized prior to commencing any construction. All fees, permits, reinspection fees and other costs, shall be included in the base bid.

II. EQUAL OPPORTUNITY CLAUSE

The Contractor agrees that, in the performance of the work, he will not violate Title VI or Title VII of the Civil Rights Act of 1964, as amended, or knowingly discriminate by segregation or otherwise against any person or class of persons by reason of age, sex, race, religion, color, national origin or handicap.

The Contractor agrees in particular to maintain open hiring and employment practices and to receive applications for employment in compliance with all requirements of applicable federal, state and local laws and regulations issued pursuant thereto relating to nondiscriminatory hiring and employment practices. Each Contractor shall undertake an affirmative action program to ensure that no person shall be excluded from participation in any employment activities because of age, sex, race, religion, color, national origin or handicap.

END OF GENERAL REQUIREMENTS

CONTRACTOR'S SALES TAX REPORT
NC State and Local Sales Taxes Paid

Buncombe County Schools

CONTRACTOR: _____ **PO#/RFP#** _____

Address: _____ **For Period:** _____

Invoice Date	Invoice #	Type of Property	NC Tax 5.75%	County Tax 2.00%	Name of County
		TOTAL	\$	\$	

I certify that the above figures do not include any tax paid on supplies, tools and equipment which were used to perform this contract and only includes those building materials, supplies, fixtures and equipment which actually became a part of or annexed to the building or structure. I certify that, to the best of my knowledge, the information provided here is true, correct, and complete.

Sworn to and subscribed before me,

This the _____ day of _____,
 20____

_____ Signed

 Notary Public

My Commission Expires: _____

 Print or Type Name of Above & Title

Seal

NOTE:
 This certified statement may be subject to audit.

The North Carolina General Assembly has amended the Statute to provide refunds of sales and use tax to local school units in accordance with the provisions of G.S. 105-164. 14(c) effective with tax paid on or after July 1, 1998.

These refunds are to include the “sales and use taxes paid by contractors on building materials, supplies, fixtures and equipment that become a part of or annexed to a building or structure that is owned or leased by the governmental entity and is being erected, altered or repaired for use by the governmental entity (G.S. 105-164.14).”

Sales and Use Tax Technical Bulletin Section 18-2F specifies: “To substantiate a refund claim for sales or use taxes paid on purchases of building materials, supplies, fixtures and equipment by its contractor, the claimant must secure from such contractor certified statements setting forth all of the following information:

- a. the date the property was purchased;
- b. the type of property purchased ;
- c. the project for which the property was used;
- d. if the property was purchased in this State, the county in which it was purchased;
- e. if the property was not purchased in this State, the county in which the property was used; and
- f. the amount of sales and use taxes paid.

In the event the contractor makes several purchases from the same vendor, such certified statement must indicate the invoice numbers, the inclusive dates of the invoices, the total amount of the invoices and the State and local sales and use taxes paid thereon. Such statement must also include the cost of any tangible personal property withdrawn from the contractor's warehouse stock and the amount of sales and use tax paid thereon by the contractor. Similar certified statements by his subcontractors must be obtained by the general contractor and furnished to the claimant. Any local sales or use taxes must be shown separately from the State sales or use taxes. The contractor's statements must not contain sales or use taxes paid on purchases of tangible personal property purchased by such contractors for use in performing the contract which does not annex to, affix to or in some manner become a part of the building or structure that is owned or leased by a governmental agency and is being erected, altered or repaired for use by a governmental entity as defined by G.S. 105-164.14(c). Examples of property on which sales or use tax has been paid by the contractor and which shall not be included in the contractor's statement are scaffolding, forms for concrete, fuel for the operation of machinery and equipment, tools, equipment, equipment repair parts and equipment rentals.



FACILITY CONSULTING GROUP

February 23, 2010

Mr. Bruce Youngberg, AIA
Cort Architectural Group, PA
239 Haywood Street
Asheville, NC 28801

Re: Roofing Test Cuts at
Erwin High School & Reynolds Middle School
Asheville, NC
FCG Project No. 240-10-002

Dear Mr. Youngberg:

As requested, *FACILITY CONSULTING GROUP (FCG)* performed roofing test cuts and fastener pull tests on multiple roof areas and several roof levels at the above referenced buildings on February 18, 2010.

BACKGROUND

It is our understanding that Cort Architectural Group is preparing construction documents for upcoming bids on the roof replacement at the two referenced schools. In an effort to give the bidders an independent survey of the existing roof composition, while minimizing the number of parties performing test cuts, *FCG* was commissioned to perform the survey and supply the results to Cort for inclusion in the bid documents. In addition, the proposed specification calls for nailing a base sheet to the existing lightweight gypsum and Tectum roof decks. In order to determine the fastener density and pattern, the fastener pull-out resistance had to be determined, thus *FCG* was asked to perform pull-out testing on the roof areas where those deck types were present.

PROJECT DESCRIPTION

The roof areas included totaled approximately 93,000 square feet at Erwin, on two levels and approximately 67,000 square feet at Reynolds on six levels. The existing roof system in all areas surveyed at Erwin is a fully-adhered EPDM membrane, as were most of the areas at Reynolds. However, two areas at Reynolds are ballasted EPDM membrane. Detailed information concerning each of the test cuts and the condition of the existing materials is included later in this report.

We were not given specific information concerning the age or leak histories of the various roof systems included in this survey.

OBSERVATIONS

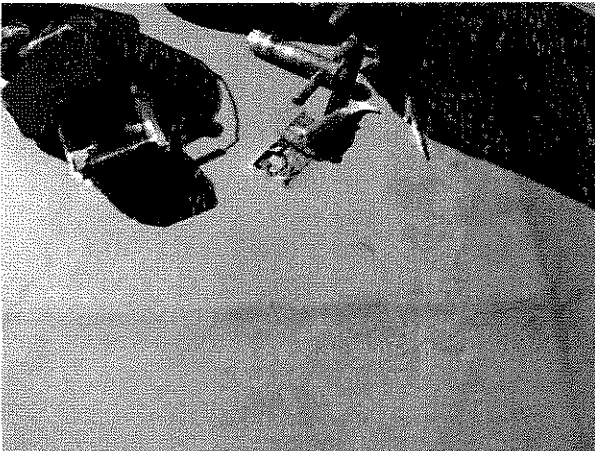
Test cut locations are shown on the enclosed roof plan drawing. Representative photographs are included below.

ERWIN HIGH SCHOOL

TEST CUTS #E-1, #E-2 and #E-3

- 45 mil EPDM membrane, fully adhered.
- ½" wood fiberboard, mopped, (wet).
- Approx. 3-ply built-up asphalt roof.
- 2" Fiberglass insulation, mopped, (wet).
- Fiberglass/Asphalt Base Sheet.
- Concrete deck.

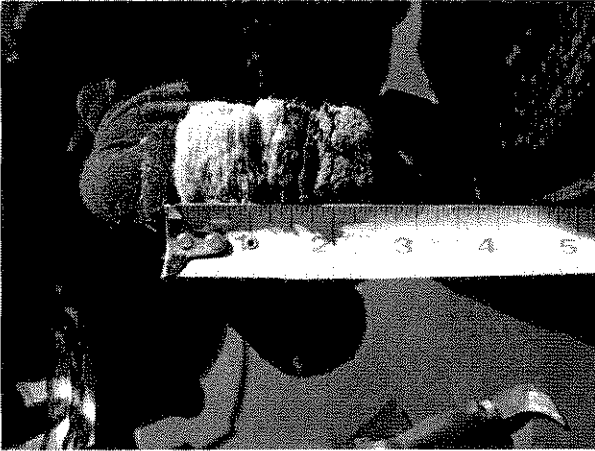
The following photo sequence shows a typical test cut at the Erwin School:



This view shows the EPDM membrane cut and peeled back revealing the wood fiberboard below.

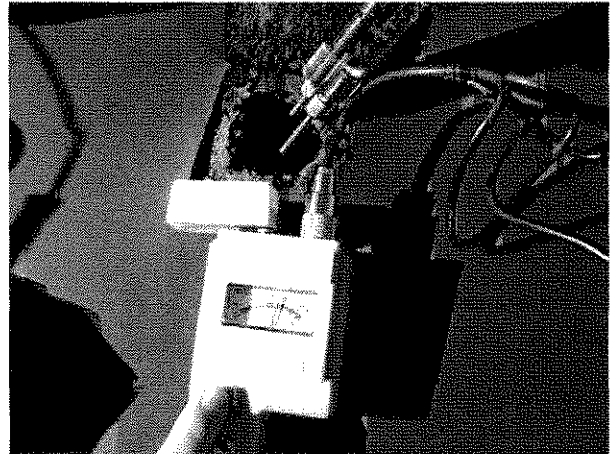
This view shows the core sample removed intact.





A close-up view of the core at Test Cut #E-1 held against a tape measure.

This view shows the Delmhorst Moisture Gauge verifying that the fiberglass insulation at Test Cut #E-1 is wet.



TEST CUT #E-4

- 45 mil EPDM membrane, fully adhered.
- 1/2" wood fiberboard, mopped, (dry).
- Approx. 3-ply built-up coal-tar pitch roof.
- 2" Fiberglass insulation, mopped, (wet).
- Fiberglass/Asphalt Base Sheet.
- Concrete deck.

TEST CUT #E-5

- 45 mil EPDM membrane, fully adhered.
- ½" wood fiberboard, mopped, (wet).
- Approx. 3-ply built-up coal-tar pitch roof.
- 2" Fiberglass insulation, mopped, (wet).
- Fiberglass/Asphalt Base Sheet.
- Concrete deck.

AC REYNOLDS MIDDLE SCHOOL

TEST CUT #R-1

- 45 mil EPDM membrane, fully adhered.
- ½" wood fiberboard, mopped, (dry).
- Gypsum deck.
- Pull Test: 64 psi with 1.4" OlyLok Locking Impact Nail.

TEST CUT #R-2

- 45 mil EPDM membrane, fully adhered.
- ½" wood fiberboard, mopped, (wet).
- Red resin paper.
- Gypsum deck.
- Pull Test: 257 psi with 1.8" OlyLok Locking Impact Nail.

TEST CUT #R-3

- 45 mil EPDM membrane, fully adhered.
- ½" wood fiberboard, mopped, (dry).
- Fiberglass/Asphalt Base Sheet.
- Red resin paper.
- Gypsum deck.
- Pull Test: 229 psi with 1.4" OlyLok Locking Impact Nail.



TEST CUT #R-4

- 45 mil EPDM membrane, fully adhered.
- ½" wood fiberboard, mopped, (dry).
- Approx. 4-ply built-up roof with gravel.
- 1 ¾" Perlite insulation, mopped, (dry).
- Fiberglass/Asphalt Base Sheet.
- Red resin paper.
- Gypsum deck.

TEST CUT #R-5

- 45 mil EPDM membrane, fully adhered.
- ½" wood fiberboard, mopped, (dry).
- Fiberglass/Asphalt Base Sheet.
- Red resin paper.
- Gypsum deck.
- Pull Test: 259 psi with 1.8" OlyLok Locking Impact Nail.

TEST CUT #R-6

- 45 mil EPDM membrane, stone ballasted.
- 2 ½" Extruded Polystyrene insulation, loose-laid, (dry).
- Gypsum board, loose-laid, (dry).
- Metal deck (assumed).

TEST CUT #R-7

- 45 mil EPDM membrane, fully adhered.
- ½" wood fiberboard, mopped, (dry).
- Approx. 4-ply built-up roof with gravel.
- 1 ¾" Perlite insulation, mopped, (dry).
- Fiberglass/Asphalt Base Sheet.
- Red resin paper.
- Wood fiber deck.



TEST CUT #R-8

- 45 mil EPDM membrane, fully adhered.
- ½" wood fiberboard, mopped, (dry).
- Approx. 4-ply built-up roof with gravel.
- 1 ¾" Perlite insulation, mopped, (dry).
- Fiberglass/Asphalt Base Sheet.
- Red resin paper.
- 2-ply fiberglass felt/asphalt vapor retarder.
- Wood fiber deck.
- Pull Test: 101 psi with 1.4" OlyLok Locking Impact Nail.

TEST CUT #R-9

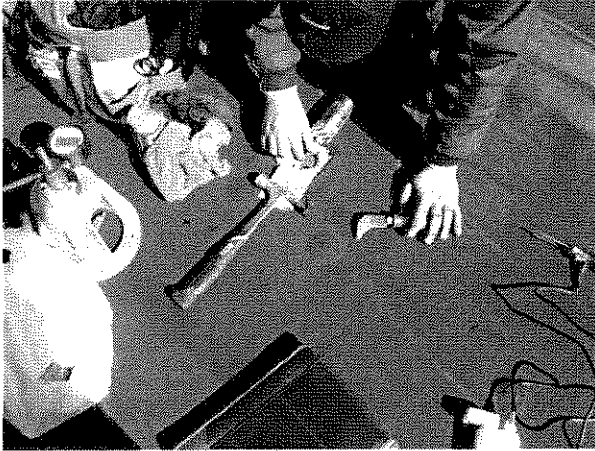
- 45 mil EPDM membrane, fully adhered.
- ½" wood fiberboard, mopped, (dry).
- Approx. 4-ply built-up roof with gravel.
- 1 ¾" Perlite insulation, mopped, (dry).
- Fiberglass/Asphalt Base Sheet.
- Red resin paper.
- 2-ply fiberglass felt/asphalt vapor retarder
- Wood fiber deck.

TEST CUT #R-10

- 45 mil EPDM membrane, stone ballasted.
- 6" Expanded Polystyrene insulation, loose-laid, (dry). (insulation system is assumed to be tapered)
- Metal deck.

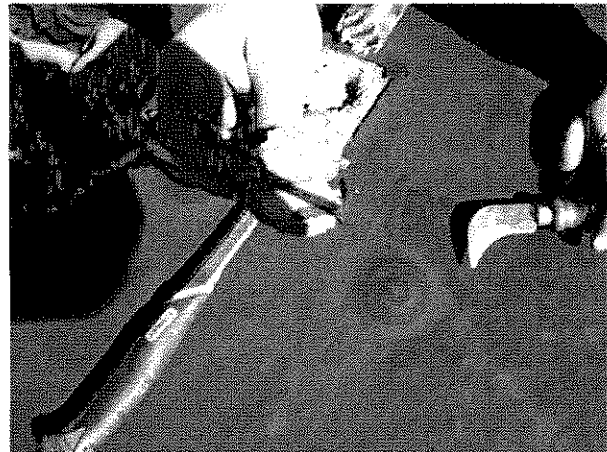
The following photo sequence shows a typical test cut at the Reynolds School:

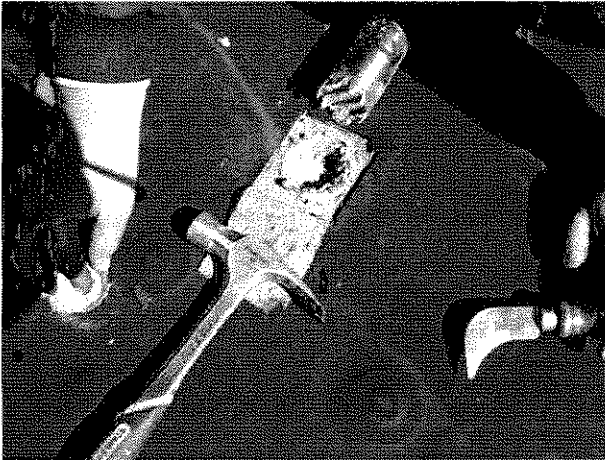




This view shows the EPDM membrane cut revealing the wood fiberboard below.

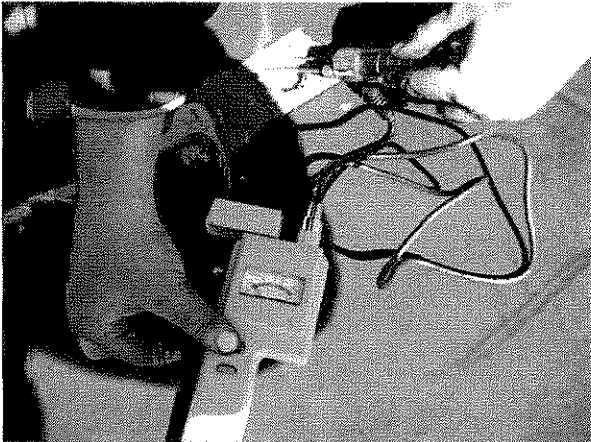
This view shows the base sheet and red resin paper at the base of the core.





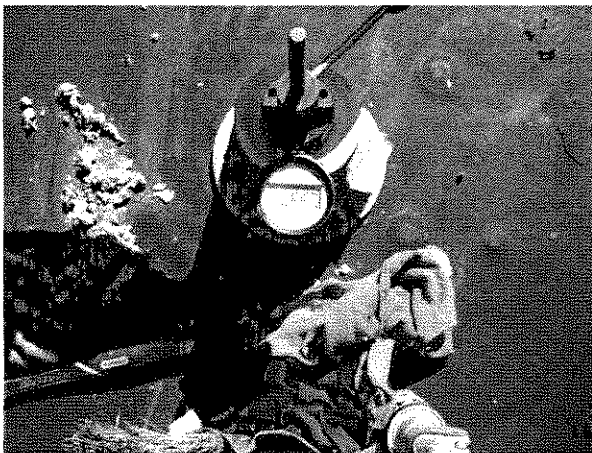
Test Cut #R-3 with all materials removed, showing the dry gypsum deck at the base.

This view shows the Delmhorst Moisture Gauge verifying that the wood fiberboard is dry at Test Cut #R-3.

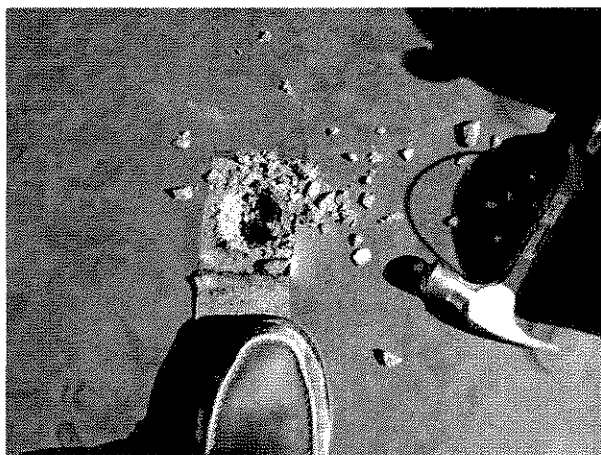


Another view of the test cut with all materials removed and the deck exposed.

This view shows the pull tester in place over the test cut. The number on the gauge indicates this pull reached 229 psi.

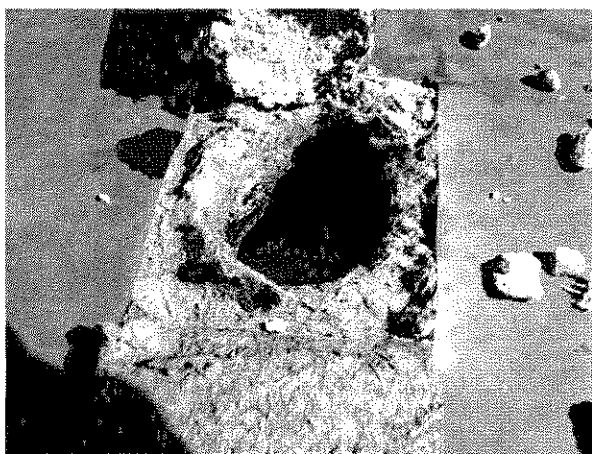


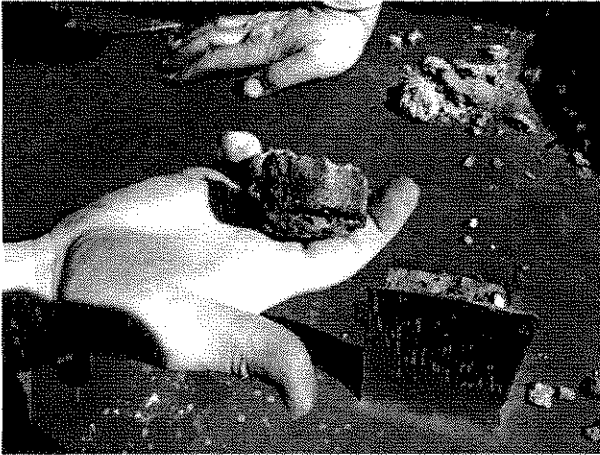
The following photo sequence shows another typical test cut at the Reynolds School:



This view shows the EPDM membrane cut revealing the wood fiberboard below.

Below the wood fiberboard was a significant amount of gravel and an asphalt built-up roof.





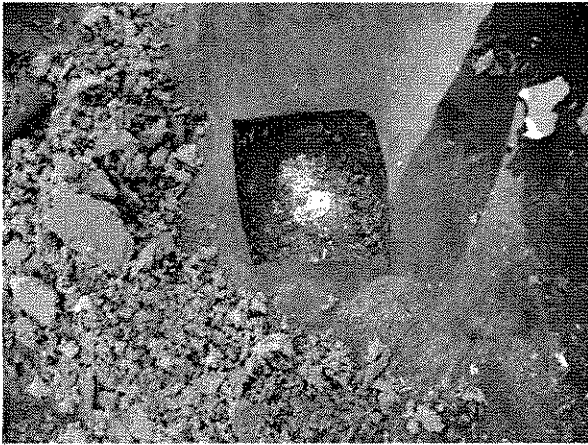
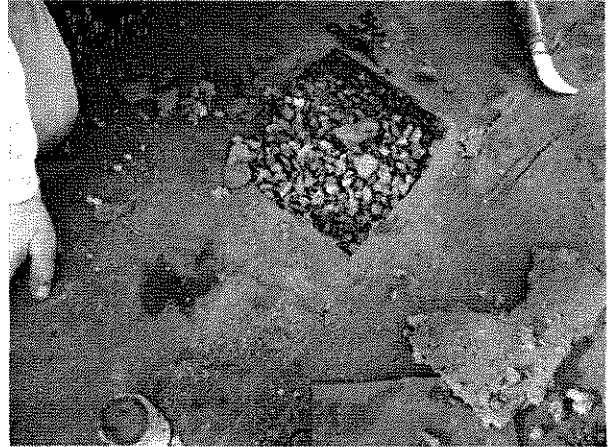
This view shows the existing built-up membrane after it was removed during the coring process.

The existing built-up membrane was measured at just over 1" thick.



This view shows the total core was approximately 4" thick to the deck surface.

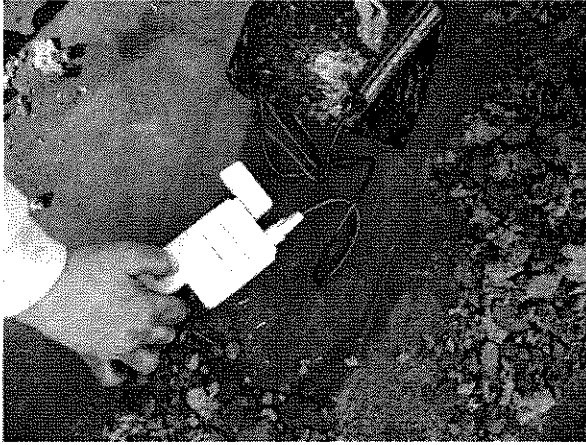
Because of the composition of this roof, a larger hole had to be cut to accommodate the pull tester.



This view shows the existing materials cleaned out, exposing the wood fiber decking.

This view shows the pull tester in place over the deck, inside the test cut.





This view shows the Delmhorst Moisture Gauge verifying that the Perlite insulation is dry at Test Cut #R-8.

This view shows the Delmhorst Moisture Gauge verifying that the wood fiber deck is dry at Test Cut #R-8.



FACILITY CONSULTING GROUP appreciates the opportunity to be of service to Cort Architectural Group and the Buncombe County Schools. We hope that this information will be helpful to you and the building owner. If you have any questions about this report or require any additional information, please let us know.

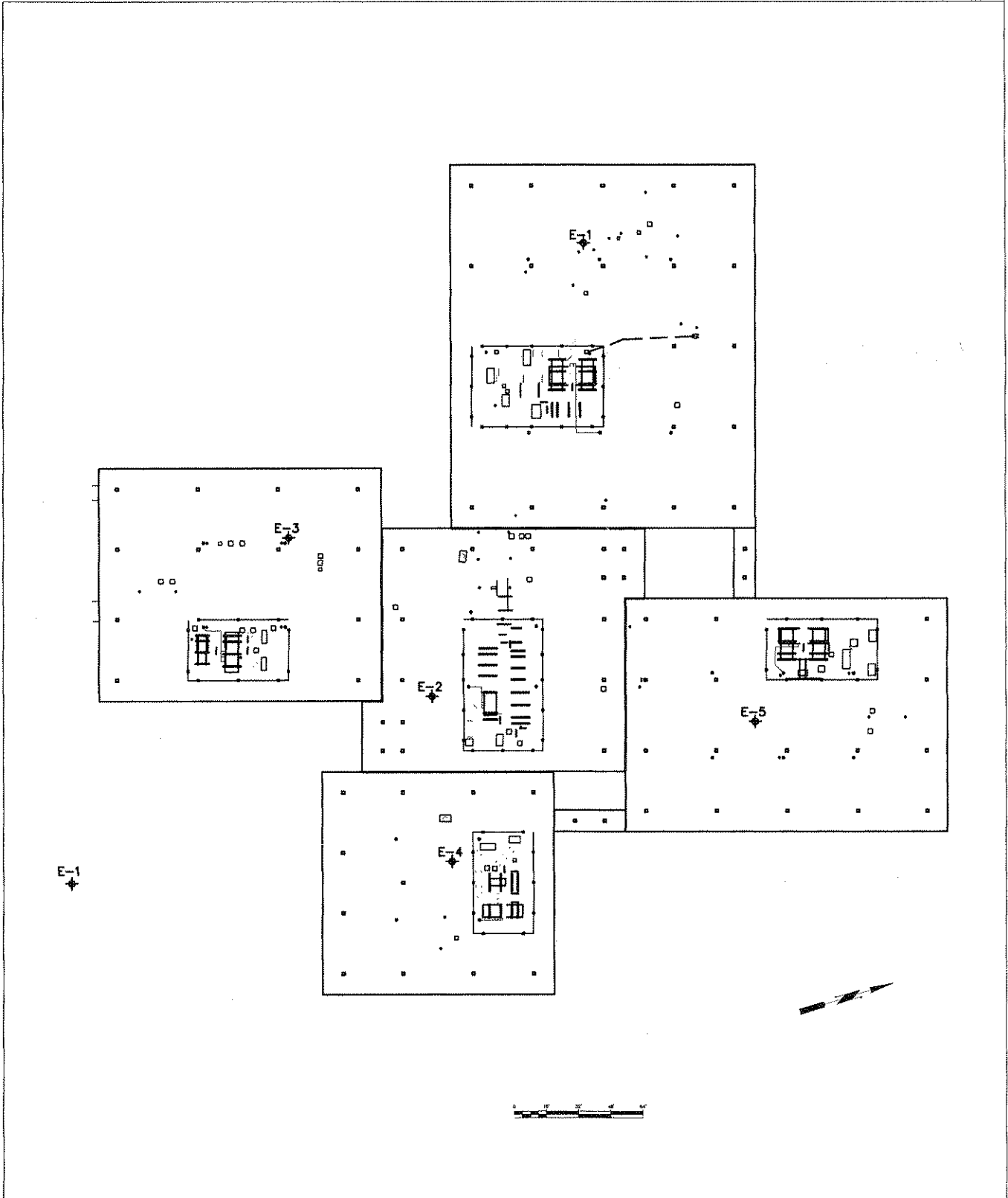
Sincerely,

Randal S. Keel

Randal S. Keel

Consultant

FACILITY CONSULTING GROUP



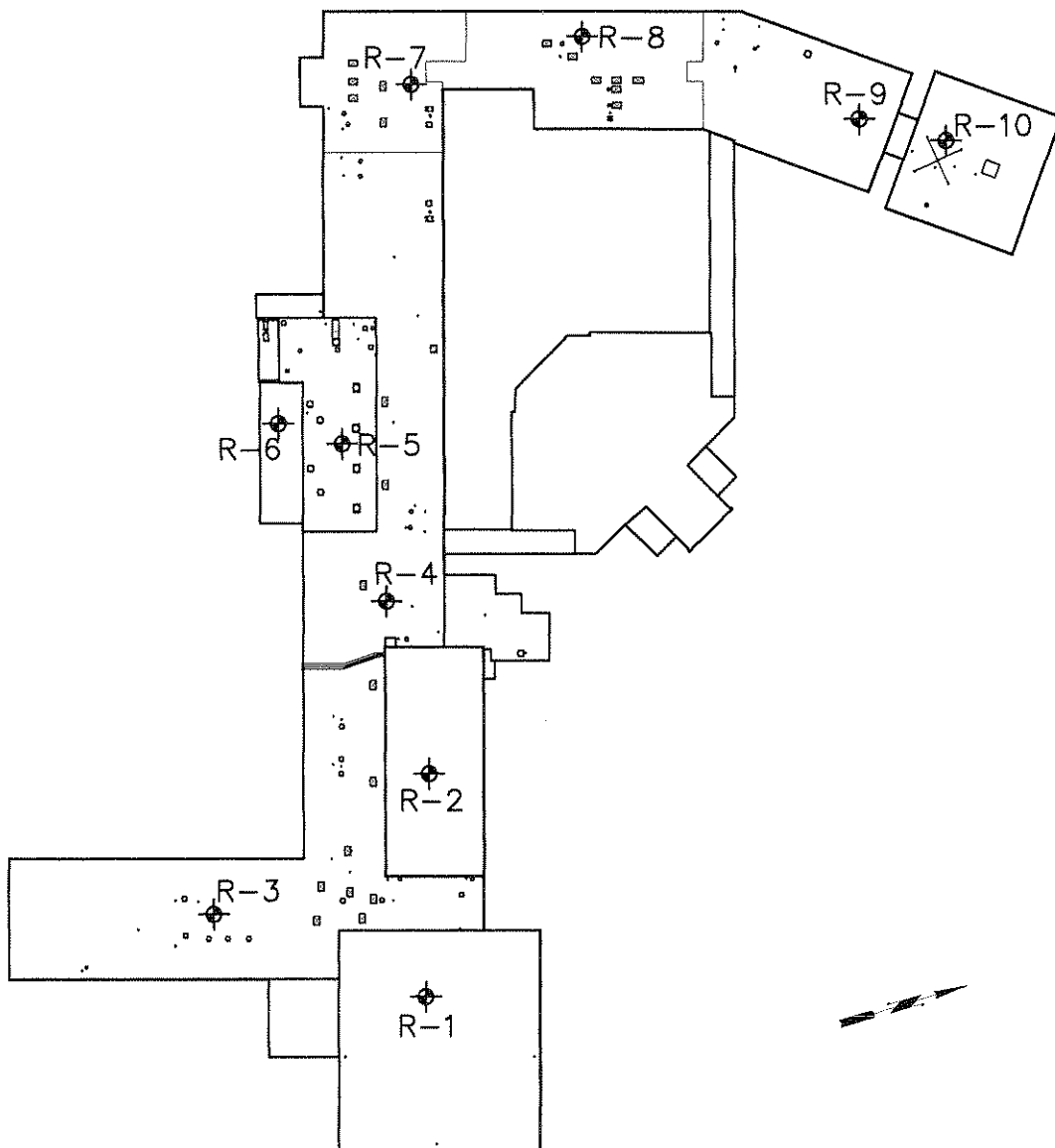
NO	REVISIONS	DATE

BUNCOMBE COUNTY SCHOOLS
ASHEVILLE, NORTH CAROLINA

ERWIN HIGH SCHOOL
TEST CUT LOCATIONS

FCG FACILITY CONSULTING GROUP
Asheboro, North Carolina

DWN. R S KEEL	DATE: 2-23-10	DWG. NO.
SCALE: NONE	JOB NO. 240-10-002	10002-1



R-1
◆



NO	REVISIONS	DATE

BUNCOMBE COUNTY SCHOOLS
ASHEVILLE, NORTH CAROLINA
REYNOLDS MIDDLE SCHOOL
TEST CUT LOCATIONS



DWN: R S KEEL	DATE: 2-23-10	DWG. NO.
SCALE: NONE	JOB NO. 240-10-002	10002-2

SECTION 02070 - DEMOLITION AND PROTECTION

PART 1 - GENERAL

RELATED DOCUMENTS:

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

SCOPE OF THE WORK:

The work required under this Division includes the furnishing of all labor, materials, services, permits and equipment necessary to perform all demolition and protection work as shown on the plans or as required. It shall also include hauling refuse from the project site to a public or private point of disposal in a legal manner.

METHODS:

The Contractor shall take down, demolish and remove those portions of the existing building only as are shown on the drawings to be taken down, demolished or removed. The Contractor shall provide all safeguards of any kind or nature required to protect human life and the remainder of the building to be left.

Demolition or removal methods shall be by machine or hand operation as required. Extreme care shall be exercised by the Contractor to prevent damage to any portion of the existing building. Should the existing building sustain any damage whatsoever, it shall be repaired by the Contractor to its former state without cost to the Owner.

All demolition/removal procedures and methods shall be of a nature so as not to endanger persons as well as the building. The necessary signs, barricades and safety precautions shall be used and exercised to prevent any accident.

All refuse resulting from demolition/removal processes shall be cleaned up at the end of each work shift period and shall be either hauled from the site or made secure. Especial attention shall be given to any sharp object that may endanger.

All demolition work shall be performed under the direct supervision of a competent superintendent and only by capable workman.

CUTTING - REMOVAL - DRILLING REQUIREMENTS:

1. The size and location of all holes which are to be drilled through the existing roof shall be submitted to the Architects prior to cutting or drilling any holes through the structure. After approval of these holes, the Contractor shall drill 1/4 inch diameter pilot holes which are not as shown on the existing drawings or approved drawings noted. After

approval of the openings or holes and the drilling of the pilot holes, all openings and/or holes through the existing roof shall be saw cut or core drilled. Holes shall not be increased in size or relocated from the approved drawings unless written permission is received by the Contractor.

2. Removal of any existing structure shall be done in such a manner as to not impair the structural integrity of the existing structure to remain. Vibration and shock loads shall be minimized. The method(s) of removing existing roofing shall be submitted to the Architects prior to beginning work. the procedure shall contain an orderly method of demolition and means of preventing debris from falling onto areas below.

SUBMITTALS:

Submit proposed methods and operations of roofing demolition to Architects for review prior to start of work.

JOB CONDITIONS:

Demolition in renovated areas must be accomplished while maintaining normal school functions.

The Owner assumes no responsibility for actual condition of structures to be demolished.

Conditions existing at time of inspection for bidding purposes will be maintained by the Owner in so far as practicable.

Items of salvageable value to Contractor may be removed from structure as work progresses. Salvaged items must be transported from site as they are removed.

Burning, storage, or sale of removed items on site will not be permitted.

Use of explosives will not be permitted.

Conduct demolition operations and removal of debris to ensure minimum interference with roads, streets, walks, and other adjacent occupied or used facilities.

Do not close or obstruct drives, walks or other occupied or used facilities without permission from authorities having jurisdiction. Provide alternate routes around closed or obstructed traffic ways if required by governing regulations.

Ensure safe passage of persons around area of demolition. Conduct operations to prevent injury to adjacent buildings, structures, other facilities, and persons.

Erect temporary covered passageways as required by authorities having jurisdiction.

Provide interior and exterior shoring, bracing, or support to prevent movement, settlement or collapse of structures to be demolished and adjacent facilities to remain.

Promptly repair damages caused to adjacent facilities by demolition operations at no cost to Owner.

Maintain existing utilities indicated to remain, keep in service, and protect against damage during demolition operations.

Do not interrupt existing utilities serving occupied or used facilities, except when authorized in writing by authorities having jurisdiction. Provide temporary

services during interruptions to existing utilities, as acceptable to governing authorities.

DEMOLITION:

Pollution Controls: Use water sprinkling, temporary enclosures, and other suitable methods to limit dust and dirt from rising and scattering in air to lowest practical level. Comply with governing regulations pertaining to environmental protection.

Do not use water when it may create hazardous or objectionable conditions such as ice, flooding, and pollution.

Clean adjacent structures and improvements of dust, dirt, and debris caused by demolition operations, as directed by Architect or governing authorities. Return adjacent areas to condition existing prior to the start of work.

Remove structural framing members and lower to ground by hoists, or other suitable methods.

DISPOSAL OF DEMOLISHED MATERIALS:

Remove from site debris, rubbish, and other materials resulting from demolition operations.

Burning of removed materials from demolished structures will not be permitted on site.

Transport materials removed from demolished structures and dispose of off site as indicated preceding.

PROTECTION:

The Contractor shall at all times provide adequate and proper protection from damage by weather, be it rain, snow, wind or any element. All necessary barricades and protection devices will be erected and maintained by the Contractor until the new work can be secured. The Contractor shall also provide barriers to prevent predatory action from persons and/or animals.

NON-FRIABLE ASBESTOS CONTAINING MATERIALS (ACM):

Existing roofing material which are to be removed are considered to contain asbestos materials. There are no other known non-friable asbestos containing materials (ACM) to be removed or demolished. Non-friable asbestos containing materials (ACM) shall be removed and disposed of in a legal manner by the Contractor. During removal of such material, the work area shall be secured from unauthorized entry and air monitoring performed periodically. A demolition permit shall be obtained from the WNC Regional Air Pollution Agency.

Prior to any non-friable asbestos containing materials (ACM) removal, the Contractor shall notify the following agencies in writing. A copy of each notification letter shall be sent to the Architects.

AHERA and NESHAPS Representative
Mr. J. Pat Curran
Asbestos Hazard Management Branch
Division of Epidemiology
Dept. of Environment, Health,
and Natural Resources
Post Office Box 27687
Raleigh, N. C. 27611-7687
(919) 733-0820

OSHA Representative
Dr. James A Oppold, Director
N. C. Dept. of Labor
OSHA Division
214 W. Jones St.
Raleigh, N.C. 27603
(919) 733-4585

Mr. Steve Heiselman
WNC Air Pollution Control Agency
49 Mount Carmel Road
Asheville, N.C. 28806

In addition to the required written notifications, the Contractor shall notify the Buncombe County Landfill, Supervisor, by telephone, at least twenty four hours prior to hauling removed ACM materials to the Buncombe County Landfill.

After notifying Authorities Having Jurisdiction, and after obtaining a permit, the Contractor shall hold a pre-construction meeting with a representative from the WNC Air Pollution Control Office. Review requirements of WNC Air Pollution Control and abide by proceeding. Submit meeting minutes to the Architect and Owner to confirm requirements.

Generally, non-friable asbestos containing materials (ACM) shall be handled and removed as indicated following:

- a. Rope off the work area to prevent unauthorized personnel from entering the construction site.

- b. Care shall be taken to minimize dust generated by the removal process.
- c. Materials shall be dampened prior to removal.
- d. Materials shall not be allowed to drop on the ground or other surfaces.
- e. Do not pile removed materials on the ground or other surfaces.
- f. Chutes shall be used to deposit the materials in trucks.
- g. Dampen removed materials as they are deposited in trucks.
- h. Removed materials shall be hauled to the Buncombe County Landfill in covered trucks and deposited at the location designated by the Landfill Supervisor.
- i. The Contractor shall furnish and install a 6 mil. polyethylene envelope around

all ACM materials deposited at the Landfill. The polyethylene shall be placed in the excavation prior to placement of the ACM materials. The polyethylene shall then be wrapped around the materials and sealed in accordance with the Landfill Supervisor's instructions.
- j. The Contractors (Bidders) shall include in their bids the cost of all permits, fees and inspections and air monitoring relating to removal and deposit of non-friable (ACM) construction materials.

In addition to the above indications, the following "Criteria, Non-Friable (ACM) Construction Material" shall apply to removal and handling of ACM materials.

Non-friable asbestos containing materials (ACM), such as floor tile, roofing and siding materials may be removed, transported and disposed of as normal construction materials when handled in a manner that fiber releases are below the action level of 0.1 fibers per cc. Air (personal) sampling must take place when levels may exceed this amount. However, there is no reason to believe that removal of non-friable materials in a non-violent manner (no cutting, sawing or sanding with power tools) will result in a significant fiber release at or above the amount required to trigger the OSHA construction standard.

The specific asbestos standards to be followed by general industry when working with asbestos containing materials are found in the North Carolina Occupational Safety and Health Standards for general industry as adopted by 13 NCAC 7C.101.

However, in this situation the Construction Industry Standards 29 CFR 1927 as adopted by 13 NCAC 7C.0101 are to be followed when exposures may equal or exceed .1 fibers/cc. Both standards are enforced by the North Carolina

Department of Labor, Division of Occupational Safety and Health, the N.C. Asbestos Program Rules, or NESHAP 40 CFR Part 61 Subpart M.

If a removal process may release significant fiber levels approaching the level of .1 fibers/cc, the following precautionary work practices may be adequate, appropriate, practical and safe responses:

1. Wet the non-friable materials with a fine mist of water.
2. Allow no activities or equipment to be used that could cause fiber release such as drilling, sawing, sanding, or cutting with power tools.
3. Allow no throwing or dropping of materials. Lower materials to ground level in closed chutes.

It is recommended that any persons working with non-friable asbestos materials should be briefed in the following areas:

1. Health effects of asbestos.
2. Work practices for dealing with asbestos (wet method).
3. Regulations which relate to asbestos work on friable materials or non-friable materials releasing at or above .1 fibers/cc.

Be aware that any time asbestos fibers are released in excess of the action level of 0.1 fibers/cc that the employee and employer should stop the work and resolve the problem. If a release cannot be controlled to keep levels below 0.1 fibers/cc, the asbestos standard concerning medical exams, training and recordkeeping must be followed. When fiber releases exceed the OSHA permissible exposure limit of 0.2 fibers/cc, the asbestos construction standard must be followed in all aspects to include respiratory protection, protective clothing, etc. However, if the above work practices and precautionary measures described above are implemented, there is no reason to believe that the OSHA action level or the full OSHA construction standard will be triggered.

This is a partial list of the regulatory requirements regarding asbestos contracting. It is the responsibility of the Contractor to be familiar with pertinent regulations. Feel free to direct any general questions or comments to the Asbestos Hazard Management Branch, N. C. Department of Environment, Health, and Natural Resources at (919) 733-0820

NOTE: The above Criteria has been established by: NCDENR Division of Health Services, NCDOA State Construction Office and NCDPI, Division of School Planning.

END OF SECTION 02070

SECTION 03521 - LIGHTWEIGHT INSULATING CONCRETE-Alternate No. 1

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. The Contractor shall state on the Form of Proposal as Alternate No. 1 a lump sum price to be added to or deducted from the Base Bid amount to provide Cellular lightweight insulating concrete. Cellular concrete insulation shall be placed to conform to the same elevations shown on the Drawings for tapered polyisocyanurate insulation.
- B. Section includes cast-in-place cellular lightweight insulating concrete.
- C. Related Sections:
 - 1. Division 06 Section "Rough Carpentry" for wood blocking and curbs.
 - 2. Division 07 Section "Preparation for Re-Roofing" for recover board beneath new membrane roofing.
 - 3. Division 07 Section "Thermoplastic Polyolefin (TPO) Roofing" for membrane roofing system.

1.3 SUBMITTALS

- A. Shop Drawings: Include plans, sections, and details showing roof slopes, lightweight insulating concrete thicknesses, embedded insulation board, roof penetrations, roof perimeter terminations and curbs, control and expansion joints, and roof drains.
- B. Design Mixtures: For lightweight insulating concrete mix.
- C. Qualification Data: For qualified Installer.
- D. Product Certificates: For the following, from manufacturer:
 - 1. Cementitious materials.
 - 2. Foaming agents.
 - 3. Admixtures.
 - 4. Expanded polystyrene insulation board.
- E. Field quality-control test reports.

1.4 QUALITY ASSURANCE

- A. Installer Qualifications: An Installer who employs and retains, throughout the project, supervisors who are trained and approved by manufacturer.
- B. Testing Agency Qualifications: An independent testing agency qualified according to ASTM C 1077 and ASTM E 329 for testing indicated.
- C. Fire-Resistance Ratings: Where indicated, provide lightweight insulating concrete identical to those of assemblies tested for fire resistance per ASTM E 119 by a qualified testing agency.
 - 1. Indicate design designations from UL's "Fire Resistance Directory" or from the listings of another qualified testing agency.
- D. FM Approvals Listing: Provide lightweight insulating concrete evaluated by FM Approvals as part of a roof assembly and listed in FM Approvals' "RoofNav" for Class 1 or noncombustible construction, as applicable.
- E. Preinstallation Conference: Conduct conference at Project site.

1.5 DELIVERY, STORAGE, AND HANDLING

- A. Deliver materials in manufacturer's original undamaged packages or acceptable bulk containers.
- B. Store packaged materials to protect them from elements or physical damage.
- C. Do not use cement that shows indications of moisture damage, caking, or other deterioration.

1.6 PROJECT CONDITIONS

- A. Do not place lightweight insulating concrete unless ambient temperature is at least 40 deg F (4.4 deg C) and rising.
- B. Do not place lightweight insulating concrete during rain or snow or on surfaces covered with standing water, snow, or ice.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Cementitious Material: Portland cement shall be Type I, II, III meeting ASTM C 150 unless otherwise approved.
- B. Foaming Agent: ASTM C 869.

- C. Water: Clean, potable, fresh and free from injurious quantities of acid, alkali, salt, oil, organic matter, or other impurities.
- D. Admixtures: Do not use admixtures without approval of the insulating concrete manufacturer; use approved admixtures in strict accordance with manufacturer's recommendations.
- E. Insulation Board: Expanded Polystyrene holey board (EPS) meeting ASTM C578 fabricated in 2 ft. by 4 ft. size in specified thickness with a nominal density of (1) pcf [16 kg/m³] density; fabricate board with (8) 2-1/2 inch +/- 1/2 inch [6.35 cm +/- 1.27 cm] diameter holes to provide a positive keying action; Factory Mutual (FM) and UL approved.

2.2 DESIGN MIXTURES

- A. Mix materials in accordance with recommendations of manufacturer to yield the specified physical properties.
- B. Mix and pump cellular lightweight insulating concrete into place using a mixing plant approved by the manufacturer. Thoroughly blend all materials before discharging the mixer.
- C. Maintain a wet density of 38 pcf +/- 3 pcf at place of deposit. Density checks shall be conducted every 30 minutes and recorded in a written log.
- D. Maintain a consistency suitable to provide a plastic mix capable of being screeded to a smooth finish.

2.3 CELLULAR LIGHTWEIGHT INSULATING CONCRETE

- A. Produce cellular lightweight insulating concrete with the following minimum physical properties using cementitious materials, air-producing liquid-foaming agents, and the minimum amount of water necessary to produce a workable mix.
 - 1. Manufacturers: Subject to compliance with requirements, provide products by the following:
 - a. Celcore Incorporated.
 - b. Elastizell Corporation of America.
 - c. Siplast - INSULCEL.
 - 2. As-Cast Unit Weight: 38 to 42 lb/cu. ft. at point of placement, when tested according to ASTM C 138/C 138M.
 - 3. Oven-Dry Unit Weight: 26 to 32 lb/cu. ft., when tested according to ASTM C 495.
 - 4. Compressive Strength: Minimum 250 psi at age 28 days, when tested according to ASTM C 495

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Verify that top surface of deck scheduled to receive insulating concrete is free of any materials or coverings that may prevent bond.
- B. Examine surfaces for inadequate anchorage, foreign material, moisture, and unevenness which would prevent proper application of insulating concrete.
- C. Beginning of installation means applicator accepts existing substrate conditions.

3.2 PREPARATION

- A. Cover roof deck penetrations, drains, ect. Before installing insulating concrete.
- B. Clean substrate of deleterious material and water.
- C. Set screeds to assure insulating concrete is applied to the required depth.
- D. Protect elements surrounding the work of this Section from damage or disfiguration.

3.3 INSTALLATION:

- A. Mix and place lightweight insulating concrete according to manufacturer's specifications, using equipment and procedures to avoid segregation of mixture and loss of air content.
- B. Place cellular concrete slurry to a minimum thickness of 1/8 inch [.32 cm] over top of base sheet/temporary roof.
- C. Install insulation board according to lightweight insulating concrete manufacturer's specifications. The insulation board shall be placed in such a manner as to cause full contact of the board surface with the plastic cellular concrete. Cellular concrete shall enter into the keying holes of the board. The insulation board shall be placed in a brick-like pattern of staggered joints butted tightly together.
- D. Place cellular concrete on top of the insulation board to a minimum thickness of two (2) inches[5.08 cm]. Finish top surface smooth, free of ridges and depressions, and maintain surface in condition to receive subsequent roofing system.
- E. Deposit and screed lightweight insulating concrete in a continuous operation until an entire panel or section of roof area is completed. Do not vibrate or work mix except for screeding or floating. Place to depths and slopes indicated.

3.4 FIELD QUALITY CONTROL

- A. Testing Agency: Owner will engage a qualified independent testing and inspecting agency to sample materials, perform field tests and

inspections, and prepare test reports. Contractor shall assist in notifying Agency and obtaining samples.

- B. Testing of samples of lightweight insulating concrete obtained according to ASTM C 172, except as modified by ASTM C 495, shall be performed according to the following requirements:

1. Determine as-cast unit weight during each hour of placement, according to ASTM C 138/C 138M.
2. Determine oven-dry unit weight and compressive strength according to ASTM C 495. Make a set of at least six molds for each day's placement, but not less than one set of molds for each [5000 sq. ft. (465 sq. m)] of roof area. (4) cylinders for compressive strength, (2) cylinders for oven-dry-density.
3. During molding, place concrete in two (2) approximately equal layers. Raise and drop the cylinders approximately one (1) inch [2.5 cm] three times on a hard surface after placing each layer. Do not rod the concrete. Cylinders shall be placed in a location where they will not be disturbed for at least 24 hours after being cast.
4. Keep concrete in molds for a minimum of seven (7) days.
5. Provide six (6) test ports three (3) inches in diameter extending to vapor barrier/temporary roof at low point locations to serve as observable areas to determine if water has entered the system.
6. Perform additional tests when test results indicate that as-cast unit weight, oven-dry unit weight, compressive strength, or other requirements have not been met.

- a. Retest cast-in-place lightweight insulating concrete for oven-dry unit weight and compressive strength.

3.5 PROTECTION

- A. Apply a curing membrane [PVA Curing Compound] over deck surface as soon as the deck will support foot traffic for protection against excessive evaporation or dry out. This PVA membrane shall be an integral part of the deck system. Prevent excess roof traffic for 24 hours.
- B. Remove and replace lightweight insulating concrete that fails to comply with requirements.

3.6 DEFECTIVE WORK

- A. Refinish, or remove and replace, lightweight insulating concrete if surfaces are excessively scaled or too rough to receive roofing according to roofing membrane manufacturer's written instructions. Surface repairs shall be done in accordance with the specifications of the roof deck manufacturer.
- B. Remove and replace lightweight insulating concrete that fails to comply with requirements.

END OF SECTION 03521

SECTION 06105 - 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. Section Includes:

1. Framing with dimension lumber.
2. Rooftop equipment bases and support curbs.
3. Wood blocking and nailers.
4. Plywood sheathing panels.

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. NeLMA: Northeastern Lumber Manufacturers' Association.
 2. NHLA: National Hardwood Lumber Association.
 3. NLGA: National Lumber Grades Authority.
 4. SPIB: The Southern Pine Inspection Bureau.
 5. WCLIB: West Coast Lumber Inspection Bureau.
 6. WWPA: Western Wood Products Association.

1.4 ACTION SUBMITTALS

- A. Product Data: For each type of process and factory-fabricated product. Indicate component materials and dimensions and include construction and application details.
 1. Include data for wood-preservative treatment from chemical treatment manufacturer and certification by treating plant that treated materials comply with requirements. Indicate type of preservative used and net amount of preservative retained.
 2. Include data for fire-retardant treatment from chemical treatment manufacturer and certification by treating plant that treated materials comply with requirements. Include physical properties of treated materials based on testing by a qualified independent testing agency.

3. For fire-retardant treatments, include physical properties of treated lumber both before and after exposure to elevated temperatures, based on testing by a qualified independent testing agency according to ASTM D 5664.
4. For products receiving a waterborne treatment, include statement that moisture content of treated materials was reduced to levels specified before shipment to Project site.
5. Include copies of warranties from chemical treatment manufacturers for each type of treatment.

1.5 INFORMATIONAL SUBMITTALS

A. Evaluation Reports: For the following, from ICC-ES:

1. Preservative-treated wood.
2. Fire-retardant-treated wood.

1.6 DELIVERY, STORAGE, AND HANDLING

- ##### A.
- Stack lumber flat with spacers beneath and between each bundle to provide air circulation. Protect lumber from weather by covering with waterproof sheeting, securely anchored. 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, mark grade stamp on end or back of each piece or omit grade stamp and provide certificates of grade compliance issued by grading agency.
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.

- ##### B.
- Maximum Moisture Content of Lumber: 19 percent; 15 percent for 2-inch nominal (38-mm actual) thickness or less, 19 percent for more than 2-inch nominal (38-mm actual) thickness; 15 percent for 2-inch nominal (38-mm actual) thickness or less.

2.2 WOOD-PRESERVATIVE-TREATED MATERIALS

- A. Preservative Treatment by Pressure Process: AWPA U1; Use Category UC3b for exterior construction not in contact with the ground.
 - 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 items indicated on Drawings, and the following:
 - 1. Wood cants, nailers, curbs, equipment support bases, blocking, stripping, and similar members in connection with roofing, flashing, vapor barriers, and waterproofing.
 - 2. Wood sills, sleepers, blocking, furring, stripping, and similar concealed members in contact with masonry or concrete.

2.3 FIRE-RETARDANT-TREATED MATERIALS

- A. General: Where fire-retardant-treated materials are indicated, use materials complying with requirements in this article, that are acceptable to authorities having jurisdiction, and with fire-test-response characteristics specified as determined by testing identical products per test method indicated by a qualified testing agency.
- B. Fire-Retardant-Treated Lumber and Plywood by Pressure Process: Products with a flame spread index of 25 or less when tested according to ASTM E 84, and with no evidence of significant progressive combustion when the test is extended an additional 20 minutes, and with the flame front not extending more than 10.5 feet (3.2 m) beyond the centerline of the burners at any time during the test.
 - 1. Use treatment that does not promote corrosion of metal fasteners.
 - 2. Interior Type A: Treated materials shall have a moisture content of 28 percent or less when tested according to ASTM D 3201 at 92 percent relative humidity.
 - 3. Provide high temperature fire-retardant treatment.
- C. Kiln-dry lumber after treatment to a maximum moisture content of 19 percent. Kiln-dry plywood after treatment to a maximum moisture content of 15 percent.
- D. Identify fire-retardant-treated wood with appropriate classification marking of testing and inspecting agency acceptable to authorities having jurisdiction.
- E. Application: Treat all miscellaneous carpentry unless otherwise indicated.

2.4 DIMENSION LUMBER FRAMING

A. General Framing: No. 2 grade and of the following species:

1. Southern pine; SPIB.

2.5 MISCELLANEOUS LUMBER

A. General: Provide miscellaneous lumber indicated and lumber for support or attachment of other construction, including the following:

1. Blocking.
2. Nailers.
3. Rooftop equipment bases and support curbs.
4. Cants.
5. Furring.

B. For items of dimension lumber size, provide Construction or No. 2 and the following species:

1. Mixed southern pine; SPIB.

C. 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.

2.6 PLYWOOD SHEATHING PANELS

A. Sheathing Panels: DOC PS 1, Exterior, C-C Plugged, high temperature fire-retardant treated, in thickness indicated or, if not indicated, not less than 3/4-inch (19-mm) nominal thickness.

2.7 FASTENERS

A. General: Provide fasteners of size and type indicated that comply with requirements specified in this article for material and manufacture.

1. Where carpentry is exposed to weather, pressure-preservative treated, fire-retardant treated, or in area of high relative humidity, 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.

E. Screws for Fastening to Metal Framing: [ASTM C 1002] [ASTM C 954], length as recommended by screw manufacturer for material being fastened.

F. Lag Bolts: ASME B18.2.1 (ASME B18.2.3.8M).

- G. Bolts: Steel bolts complying with ASTM A 307, Grade A (ASTM F 568M, Property Class 4.6); with ASTM A 563 (ASTM A 563M) hex nuts and, where indicated, flat washers.
- H. Expansion Anchors: Anchor bolt and sleeve assembly of material indicated below with capability to sustain, without failure, a load equal to 6 times the load imposed when installed in unit masonry assemblies and equal to 4 times the load imposed when installed in concrete as determined by testing per ASTM E 488 conducted by a qualified independent testing and inspecting agency.
 - 1. Material: Stainless steel with bolts and nuts complying with ASTM F 593 and ASTM F 594, Alloy Group 1 or 2 (ASTM F 738M and ASTM F 836M, Grade A1 or A4).

PART 3 - EXECUTION

3.1 INSTALLATION, GENERAL

- A. Set carpentry to required levels and lines, with members plumb, true to line, cut, and fitted. Fit carpentry to other construction; scribe and cope as needed for accurate fit. Locate[furring,] nailers, blocking, and similar supports to comply with requirements for attaching other construction.
- B. Where wood-preservative-treated lumber is installed adjacent to metal decking, install continuous flexible flashing separator between wood and metal decking.
- C. Framing Standard: Comply with AF&PA's WCD 1, "Details for Conventional Wood Frame Construction," unless otherwise indicated.
- D. Install plywood sheathing panels by fastening to supports. Install fire-retardant treated plywood sheathing panels with classification marking of testing agency exposed to view.
- E. Do not splice structural members between supports unless otherwise indicated.
- F. Provide blocking and framing as indicated and as required to support facing materials, fixtures, specialty items, and trim.
- G. 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.
- H. Comply with AWWA M4 for applying field treatment to cut surfaces of preservative-treated lumber.
 - 1. Use copper naphthenate for items not continuously protected from liquid water.

- I. Securely attach carpentry work to substrate by anchoring and fastening as indicated, complying with the following:
 - 1. NES NER-272 for power-driven fasteners.
 - 2. Table 2304.9.1, "Fastening Schedule," in ICC's International Building Code.
 - 3. FM I-49 Requirements
- J. Use steel common 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. Drive nails snug but do not countersink nail heads unless otherwise indicated.

3.2 WOOD GROUND, 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 WOOD FURRING INSTALLATION

- A. Install level and plumb with closure strips at edges and openings. Shim with wood as required for tolerance of finish work.
- B. Furring to Receive Plywood or Sheathing: Install 2-by-4-inch nominal-size furring horizontally at 16 inches o.c.

3.4 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 miscellaneous rough carpentry from weather. If, despite protection, miscellaneous rough carpentry becomes wet, apply EPA-registered borate treatment. Apply borate solution by spraying to comply with EPA-registered label.

END OF SECTION 06105

SECTION 07015 - PREPARATION FOR RE-ROOFING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

A. Section Includes:

- 1. Roof tear-off.
- 2. Temporary roofing membrane.
- 3. Roof re-cover preparation.
- 4. Removal of base flashings.

B. Related Sections:

- 1. Division 01 - General Requirements for use of the premises and phasing requirements.

1.3 MATERIALS OWNERSHIP

- A. Except for items or materials indicated to be reused, reinstalled, or otherwise indicated to remain Owner's property, demolished materials shall become Contractor's property and shall be removed from Project site.

1.4 DEFINITIONS

- A. Roofing Terminology: Refer to ASTM D 1079 and glossary in NRCA's "The NRCA Roofing and Waterproofing Manual" for definition of terms related to roofing work in this Section.
- B. Existing Membrane Roofing System: Built-up asphalt and EPDM roofing membrane, roof insulation, surfacing, and components and accessories between deck and roofing membrane.
- C. Roof Tear-Off: Removal of existing membrane roofing system from deck.
- D. Remove: Detach items from existing construction and legally dispose of them off-site unless indicated to be removed and reinstalled.
- E. Existing to Remain: Existing items of construction that are not indicated to be removed.

1.5 SUBMITTALS

- A. Product Data: For each type of product indicated.
- B. Landfill Records: Indicate receipt and acceptance of hazardous wastes, such as asbestos-containing material, by a landfill facility licensed to accept hazardous wastes.

1.6 QUALITY ASSURANCE

- A. Regulatory Requirements: Comply with governing EPA notification regulations before beginning membrane roofing removal. Comply with hauling and disposal regulations of authorities having jurisdiction.
- B. Reroofing Conference: Conduct conference at Project site.
 - 1. Meet with Owner; Architect; roofing system manufacturer's representative; roofing Installer including project manager, superintendent, and foreman; and installers whose work interfaces with or affects reroofing including installers of roof accessories and roof-mounted equipment.
 - 2. Review methods and procedures related to roofing system tear-off and replacement including, but not limited to, the following:
 - a. Reroofing preparation, including membrane roofing system manufacturer's written instructions.
 - b. Temporary protection requirements for existing roofing system that is to remain during and after installation.
 - c. Testing of existing roof drains and roof drainage during each stage of reroofing, and roof drain plugging and plug removal requirements.
 - d. Construction schedule and availability of materials, Installer's personnel, equipment, and facilities needed to make progress and avoid delays.
 - e. Condition and acceptance of existing roof deck.
 - f. Structural loading limitations of deck during reroofing.
 - g. Base flashings, special roofing details, drainage, penetrations, equipment curbs, and condition of other construction that will affect reroofing.
 - h. HVAC shutdown and sealing of air intakes.
 - i. Shutdown of fire-suppression, -protection, and -alarm and -detection systems.
 - j. Asbestos removal and discovery of asbestos-containing materials.
 - k. Governing regulations and requirements for insurance and certificates if applicable.
 - l. Existing conditions that may require notification of Architect before proceeding.

1.7 PROJECT CONDITIONS

- A. Owner will occupy portions of building immediately below reroofing area. Conduct reroofing so Owner's operations will not be disrupted.

Provide Owner with not less than 72 hours' notice of activities that may affect Owner's operations.

1. Coordinate work activities daily with Owner. Shut down HVAC and fire-alarm or detection equipment if needed. Shut down of the fire alarm/detector components requires notification of and approval of the Buncombe County Fire Marshall. Comply with Fire Marshall's directives. Fire Marshall may require fulltime fire watch when Fire Alarm System is not functional.
 2. Before working over structurally impaired areas of deck, notify Owner to evacuate occupants from below the affected area. Verify that occupants below the work area have been evacuated before proceeding with work over the impaired deck area.
- B. Protect building to be reroofed, adjacent buildings, walkways, site improvements, exterior plantings, and landscaping from damage or soiling from reroofing operations.
- C. Maintain access to existing walkways, corridors, and other adjacent occupied or used facilities.
- D. Conditions existing at time of inspection for bidding will be maintained by Owner as far as practical.
1. The results of an analysis of test cores from existing membrane roofing system are available for Contractor's reference.
- E. Limit construction loads on roof to 20lbs/SF for uniformly distributed loads. Concentrated loads shall be approved by Structural Engineer.
- F. Weather Limitations: Proceed with reroofing preparation only when existing and forecasted weather conditions permit Work to proceed without water entering existing roofing system or building.
- G. Existing roofing material to be removed is assumed to contain some asbestos. See Section 02070 for procedures and requirements.
- 1.8 WARRANTY - Existing roof to be removed is not under warranty. Existing white TPO roof to remain is under warranty.

PART 2 - PRODUCTS

- 2.1 SEE SECTION 07543 - THERMOPLASTIC POLYOLEFIN (TPO) ROOFING

PART 3 - EXECUTION

3.1 PREPARATION

- A. Coordinate with Owner to shut down air-intake equipment in the vicinity of the Work. Cover air-intake louvers before proceeding with

reroofing work that could affect indoor air quality or activate smoke detectors in the ductwork.

- B. During removal operations, have sufficient and suitable materials on-site to facilitate rapid installation of temporary protection in the event of unexpected rain.
- C. Maintain roof drains in functioning condition to ensure roof drainage at end of each workday. Prevent debris from entering or blocking roof drains and conductors. Use roof-drain plugs specifically designed for this purpose. Remove roof-drain plugs at end of each workday, when no work is taking place, or when rain is forecast.
 - 1. If roof drains are temporarily blocked or unserviceable due to roofing system removal or partial installation of new membrane roofing system, provide alternative drainage method to remove water and eliminate ponding. Do not permit water to enter into or under existing membrane roofing system components that are to remain.
 - 2. Test roof drains at completion of tear-off to confirm proper operation.
- D. Verify that rooftop utilities and service piping have been shut off before beginning the Work.

3.2 ROOF TEAR-OFF

- A. General: Notify Owner each day of extent of roof tear-off proposed for that day.
- B. Remove pavers and accessories from roofing membrane.
- C. Roof Tear-Off: Remove existing roofing membrane and other membrane roofing system components down to the deck.
 - 1. Remove cover boards, roof insulation and other material down to the roof deck.
 - 2. Bitumen and felts that are firmly bonded to concrete decks are permitted to remain if felts are dry and surface is approved by TPO membrane manufacturer for total system warranty. Remove unadhered bitumen and felts and wet felts.

3.3 DECK PREPARATION

- A. Inspect deck after tear-off of membrane roofing system.
- B. Verify that concrete substrate is visibly dry and free of moisture. Test for capillary moisture by plastic sheet method according to ASTM D 4263 at start of each day's work and at start of each roof area or plane. Do not proceed with roofing work if moisture condenses under the plastic sheet.

- C. If deck surface is not suitable for receiving new roofing or if structural integrity of deck is suspect, immediately notify Architect.

3.4 TEMPORARY ROOFING MEMBRANE

- A. Install approved temporary roofing membrane over area to be reroofed. See Section 07543 for requirements.
- B. Prepare the temporary roof to receive new roofing membrane by patching and repairing temporary roofing membrane. Restore temporary roofing membrane to watertight condition. Obtain approval for temporary roof substrate from roofing membrane manufacturer and Architect before installing new roof.

3.5 DISPOSAL

- A. Collect demolished materials and place in containers. Promptly dispose of demolished materials. Do not allow demolished materials to accumulate on-site.
 - 1. Storage or sale of demolished items or materials on-site is not permitted.
- B. Transport and legally dispose of demolished materials off Owner's property.

END OF SECTION 07015

SECTION 07543 - THERMOPLASTIC POLYOLEFIN (TPO) ROOFING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

A. Section Includes:

1. Adhered TPO Membrane Roofing System.
2. Vapor Retarder/Temporary Roof.
3. Roof Insulation.
4. Roof Specialties and Accessories.

B. Related Sections:

1. Division 06 Section "Rough Carpentry" for wood nailers, curbs, and blocking.
2. Division 07 Section "Preparation for Re-Roofing"
3. Division 07 Section "Joint Sealants" for joint sealants, joint fillers, and joint preparation.

1.3 SCOPE OF WORK UNDER THIS SECTION

- A. Remove existing roof membrane, insulation, vapor barrier and any other materials down to the existing roof deck.
- B. Remove existing, abandoned, skylight and exhaust fan roof curbs and frame in existing roof openings
- C. Broom clean existing roof deck.
- D. Install temporary roof/vapor barrier. Install one ply of SBS-modified bitumen adhered to concrete roof deck.
- E. Remove all existing metal flashings, wall flashings, copings, wood blocking etc. Install new pressure treated wood blocking to replace existing and where wood blocking is shown on the Drawings.
- F. Carefully remove existing exhaust fans and other Mechanical Equipment for reuse in finish roof construction. Provide new mechanical equipment curbs as required for new insulation thickness. Mechanical Contractor to reset mechanical equipment and restore to operational conditions.
- G. Carefully remove existing electrical devices for reuse. Electrical Contractor to restore to operational conditions.

- H. Plumbing Contractor to raise plumbing vent stacks as required for new insulation thickness. Install new plumbing vent stack flashings.
- I. Mechanical Contractor to raise HVAC piping as required for new insulation thickness.
- J. Remove from the site of the work all demolished materials and materials not to be reused.
- K. Install new 30" x 30" four pound lead flashing at all roof drains. Install new cast iron roof drain strainers at all existing roof drains where strainers are missing or damaged. Test existing roof drain system prior to installation of new insulation system.
- L. Replace all drain clamp bolts with stainless steel bolts. Remove all broken or frozen bolts. Re-tap existing threads. Replace existing cast iron clamping ring if damaged.
- M. Install new tapered insulation system and TPO membrane. Make assembly watertight at the end of each working day.
- N. Install flashings, roof edge, coping cap, complete with sealants.
- O. All other work required to effect a complete watertight installation, as required even if not specifically shown on the Drawings.

1.4 DEFINITIONS

- A. Roofing Terminology: See ASTM D 1079 and glossary in NRCA's "The NRCA Roofing and Waterproofing Manual" for definition of terms related to roofing work in this Section.

1.5 PERFORMANCE REQUIREMENTS

- A. General Performance: Installed membrane roofing and base flashings shall withstand specified uplift pressures, thermally induced movement, and exposure to weather without failure due to defective manufacture, fabrication, installation, or other defects in construction. Membrane roofing and base flashings shall remain watertight.
- B. Material Compatibility: Provide roofing materials that are compatible with one another under conditions of service and application required, as demonstrated by membrane roofing manufacturer based on testing and field experience. All roofing materials including temporary roof/vapor barrier, insulation adhesives, cover board, and membrane shall be produced by the Membrane Manufacturer.
- C. Roofing System Design: Provide membrane roofing system that is identical to systems that have been successfully tested by a qualified testing and inspecting agency to resist uplift pressure calculated according to ASCE/SEI 7.
 - 1. Corner Uplift Pressure: 60 PSF.
 - 2. Perimeter Uplift Pressure: 40 PSF.

3. Field-of-Roof Uplift Pressure: 25 PSF.
- D. FM Approvals Listing: Provide membrane roofing, base flashings, and component materials that comply with requirements in FM Approvals 4450 and FM Approvals 4470 as part of a membrane roofing system, and that are listed in FM Approvals' "RoofNav" for Class 1 or noncombustible construction, as applicable. Identify materials with FM Approvals markings.
1. Fire/Windstorm Classification: Class 1A-90.
 2. Hail Resistance: SH.
 3. All wood blocking in the roofing and insulation system shall be fastened to the substrate in accordance with provisions of FM-I-49 or Details shown on the Drawings, whichever is more stringent.
- E. Energy Performance: Provide roofing system with initial Solar Reflectance Index not less than 78 when calculated according to ASTM E 1980, based on testing identical products by a qualified testing agency and that is listed on the DOE's ENERGY STAR "Roof Products Qualified Product List" for low-slope roof products.
- F. Provide coping cap system and roof edge system which have been tested and comply with requirements of ANSI/SPRI ES-1-98.

1.6 SUBMITTALS

- A. Product Data: For each type of product indicated.
- B. Shop Drawings: For roofing system. Include plans, at a minimum scale of 1/8" = 1'-0", elevations, sections, details, and attachments to other work.
1. Base flashings and membrane terminations.
 2. Tapered insulation, including slopes.
 3. Roof plan showing orientation of membrane roofing.
- C. Samples for Verification: For the following products:
1. Sheet roofing, of color specified, including T-shaped side and end lap seam.
 2. Roof insulation.
 3. Walkway pads.
 4. Metal termination bars.
 5. Six insulation fasteners of each type, length, and finish.
- D. Qualification Data: For qualified Installer and manufacturer.
- E. Installer Certificates: Signed by roofing system manufacturer certifying that Installer is approved, authorized, or licensed by manufacturer to install roofing system.
- F. Manufacturer Certificates: Signed by roofing manufacturer certifying that roofing system complies with requirements specified in "Performance Requirements" Article.
1. Submit evidence of compliance with performance requirements.

- G. Product Test Reports: Based on evaluation of comprehensive tests performed by manufacturer and witnessed by a qualified testing agency, for components of membrane roofing system.
- H. Research/Evaluation Reports: FM approval ratings for components of membrane roofing system.
- I. Maintenance Data: For roofing system to include in maintenance manuals.
- J. Warranties: Sample of special warranties. Contractor shall provide a copy of the Roofing Manufacturer's PIN (Pre-installation Report/Warranty Notification and Request Form submitted prior to the first Application for Payment. No payment until submitted.

1.7 QUALITY ASSURANCE

- A. Manufacturer Qualifications: A qualified manufacturer that is UL listed and FM approved for membrane roofing system identical to that used for this Project.
- B. Superintendent's Qualifications: Submit resume for review and approval of Contractor's Superintendent who shall be present on the job site at all times work is in progress.
- C. Installer Qualifications: A General Contractor or Specialty (Roofing) Contractor licensed in the State of North Carolina and that is approved, authorized, or licensed by membrane roofing system manufacturer to install manufacturer's product and that is eligible to receive manufacturer's special warranty.
- D. Source Limitations: Obtain components including base sheets, adhesive, roof insulation, fasteners and cover board for membrane roofing system from same manufacturer as membrane roofing.
- E. Exterior Fire-Test Exposure: ASTM E 108, Class A; for application and roof slopes indicated, as determined by testing identical membrane roofing materials by a qualified testing agency. Materials shall be identified with appropriate markings of applicable testing agency.
- F. Preliminary Roofing Conference: Before starting roof deck preparation, conduct conference at Project site.
 - 1. Meet with Owner, Architect, roofing Installer, roofing system manufacturer's representative, and installers whose work interfaces with or affects roofing, including installers of roof accessories and roof-mounted equipment.
 - 2. Review methods and procedures related to roofing installation, including manufacturer's written instructions.
 - 3. Review and finalize construction schedule and verify availability of materials, Installer's personnel, equipment, and facilities needed to make progress and avoid delays.
 - 4. Review deck substrate requirements for conditions and finishes, including flatness and fastening.
 - 5. Review structural loading limitations of roof deck during and after roofing.

6. Review base flashings, special roofing details, roof drainage, roof penetrations, equipment curbs, and condition of other construction that will affect roofing system.
 7. Review temporary protection requirements for roofing system during and after installation.
 8. Review roof observation and repair procedures after roofing installation.
- G. Pre-installation Roofing Conference: Conduct conference at Project site.
1. Meet with Owner, Architect, roofing Installer, roofing system manufacturer's technical representative (not a sales representative), and installers whose work interfaces with or affects roofing, including installers of roof accessories and roof-mounted equipment.
 2. Review methods and procedures related to roofing installation, including manufacturer's written instructions. Review manufacturer's Requirements for specific membrane glue application techniques.
 3. Review and finalize construction schedule and verify availability of materials, Installer's personnel, equipment, and facilities needed to make progress and avoid delays.
 4. Examine deck substrate conditions and finishes for compliance with requirements, including flatness and fastening.
 5. Review structural loading limitations of roof deck during and after roofing.
 6. Review base flashings, special roofing details, roof drainage, roof penetrations, equipment curbs, and condition of other construction that will affect roofing system.
 7. Review governing regulations and requirements for insurance and certificates if applicable.
 8. Review temporary protection requirements for roofing system during and after installation.
 9. Review roof observation and repair procedures after roofing installation.
- 1.8 DELIVERY, STORAGE, AND HANDLING
- A. Deliver roofing materials to Project site in original containers with seals unbroken and labeled with manufacturer's name, product brand name and type, date of manufacture, approval or listing agency markings, and directions for storing and mixing with other components.
 - B. Store liquid materials in their original undamaged containers in a clean, dry, protected location and within the temperature range required by roofing system manufacturer. Protect stored liquid material from direct sunlight.

1. Discard and legally dispose of liquid material that cannot be applied within its stated shelf life.

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

1.9 PROJECT CONDITIONS

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

1.10 WARRANTY

A. Special Warranty: Manufacturer's standard or customized form, without monetary limitation, in which manufacturer agrees to repair or replace components of membrane roofing system that fail in materials or workmanship within specified warranty period.

1. Special warranty includes total system warranty for membrane roofing, base flashings, roof insulation, base sheet/vapor retarder, fasteners, cover boards, roofing accessories, roof pavers, and other components of membrane roofing system.
2. Warranty Period: 20 years NDL (no dollar limit) from date of Substantial Completion.
3. Provide Pass-Through Warranty for lightweight insulating concrete insulation in full system warranty.

B. Special Project Warranty: Submit roofing Installer's warranty, on warranty form at end of this Section, signed by Installer, covering the Work of this Section, including all components of membrane roofing system such as membrane roofing, base flashing, roof insulation, base sheet/vapor retarder, fasteners, cover boards and walkway products, for the following warranty period:

1. Warranty Period: Two years from date of Substantial Completion.

C. Roof System Warranty Claims: Warranties that require filing of claims outside of Buncombe County or that have choice of law provisions outside North Carolina are not acceptable. Warranties must recognize uplift requirements specified and shall not be limited to wind speeds less than 90 mph.

PART 2 - PRODUCTS

2.1 TPO MEMBRANE ROOFING

- A. Fabric-Reinforced Thermoplastic Polyolefin Sheet: ASTM D 6878, internally fabric or scrim reinforced, uniform, flexible, fabric fleece backed TPO sheet.
1. Manufacturers: Subject to compliance with requirements Provide products by one of the following:
 - a. Carlisle SynTec Incorporated.
 - b. Firestone Building Products Company.
 - c. Versico Inc.
 2. Thickness: 60 mils (1.5 mm)] nominal.
 3. Exposed Face Color: White
 4. Physical Properties:
 - a. Breaking Strength: 225 lbf (1 kN); ASTM D 751, grab method.
 - b. Elongation at Break: 15 percent; ASTM D 751.
 - c. Tearing Strength: 55 lbf (245 N) minimum; ASTM D 751, Procedure B.
 - d. Brittleness Point: Minus 22 deg F (30 deg C).
 - e. Ozone Resistance: No cracks after sample, wrapped around a 3-inch- (75-mm-) diameter mandrel, is exposed for 166 hours to a temperature of 104 deg F (40 deg C) and an ozone level of 100 pphm (100 mPa); ASTM D 1149.
 - f. Resistance to Heat Aging: 90 percent minimum retention of breaking strength, elongation at break, and tearing strength after 166 hours at 240 deg F (116 deg C); ASTM D 573.
 - g. Water Absorption: Less than 4 percent mass change after 166 hours' immersion at 158 deg F (70 deg C); ASTM D 471.
 - h. Linear Dimension Change: Plus or minus 2 percent; ASTM D 1204.

2.2 AUXILIARY MEMBRANE ROOFING MATERIALS

- A. General: Auxiliary membrane roofing materials by roofing system manufacturer for intended use, and compatible with membrane roofing.
1. Liquid-type auxiliary materials shall comply with VOC limits of authorities having jurisdiction.
- B. Sheet Flashing: Manufacturer's standard sheet flashing of same material, type, reinforcement, thickness, and color as TPO sheet membrane.
- C. Bonding Adhesive: Manufacturer's standard, water based for membrane, solvent based for insulation.
- D. Metal Termination Bars: Manufacturer's standard, predrilled stainless-steel or aluminum bars, approximately 1 by 1/8 inch (25 by 3 mm) thick; with anchors.

- E. Fasteners: Factory-coated steel fasteners and metal plates complying with corrosion-resistance provisions in FM Approvals 4470, designed for fastening membrane to substrate, and acceptable to membrane roofing system manufacturer, similar to "OLYLOCK" by Olympic or "TWIN LOCK" by ES.
- F. Equipment Curbs: Provide new prefabricated curb assemblies. Equipment curbs to be equal to "PC" Pate curbs manufactured by the Pate Company.
- G. Pipe Curb Assembly: Provide new prefabricated pipe curb assembly equal to "PCA" pipe curb assembly manufactured by the Pate Company where multiple pies penetrate the roof.
- H. Custom Pipe Box Assembly: Replace existing pipe doghouses with custom pipe box assembly equal to "CPBA" manufactured by the Pate Company.
- I. Miscellaneous Accessories: Provide pourable sealers, preformed cone and vent sheet flashings, preformed inside and outside corner sheet flashings, T-joint covers, lap sealants, termination reglets, and other accessories.

2.3 VAPOR BARRIER/TEMPORARY ROOF

- A. For concrete roof deck one ply of base sheet vapor barrier/temporary roof: ASTM D6164, Grade S, Type I, 90 lb/sq, 180 b/m² polyester reinforced, SBS modified asphalt sheet, smooth surface set in cold applied two part adhesive to primed cast-in-place concrete roof deck. Heat-weld all seams. Observe Manufacturer's Requirements for moisture content of substrate.

2.4 ROOF INSULATION

- A. General: Preformed roof insulation boards manufactured by TPO membrane roofing manufacturer, selected from manufacturer's standard sizes suitable for application, of thicknesses indicated and that produce FM approved roof insulation.
- B. Polyisocyanurate Board Insulation: ASTM C 1289, Type II, Class I, Grade 3, 25 psi compressive strength glass-fiber mat facer on both major surfaces.
- C. Tapered Insulation: Provide factory-tapered, polyisocyanurate insulation boards fabricated to slope a minimum of 1/8 inch per 12 inches unless otherwise indicated.

1. Available Manufacturers:

Same Manufacturer as Roofing Membrane

Physical Properties of Polyisocyanurate Foam Core shall be as follows:

Thermal Performance	ASTM C-518	LTTR R-VALUE 5.6 per 1".
Density	ASTM D-1622	2.0 pcf
Compressive Strength	ASTM D-1621	25 psi

Dimensional Stability	ASTM D-2126	2% Max.
Moisture Vapor Transmission	ASTM C-355	2 Perm
Water Absorption	ASTM C-209	1
Flame Spread	ASTM E-84	25 Max
Service Temperature		100° to 250° F

Insulation shall be suitable for a total assembly U.L. "Class A" rating. Factory tapered insulation shall be guaranteed by the insulation manufacturer against delamination for a period of twenty (20) years from the date of acceptance. Scope of tapered insulation system shall be as shown on the drawings.

Foam plastic insulation for Class A roof assembly shall have been tested and satisfactorily passed FM 4450 or UL 1256 as required by Section 2603.4.1.5, 2009 NC State Building Code

- D. Provide preformed saddles, crickets, tapered edge strips, and other insulation shapes where indicated for sloping to drain. Fabricate to slopes indicated.

2.5 INSULATION ACCESSORIES

- A. General: Furnish roof insulation accessories recommended by insulation manufacturer for intended use and compatibility with membrane roofing.
- B. Insulation adhesive shall be provided by the roofing membrane manufacturer as a part of the tested roof system assembly and may be one of the following, in compliance with the uplift requirements:
1. Modified Asphaltic Insulation Adhesive: Insulation manufacturer's recommended modified asphalt, asbestos-free, cold-applied adhesive formulated to attach roof insulation to substrate or to another insulation layer.
 2. Bead-Applied Insulation Adhesive: Insulation manufacturer's recommended bead-applied, low-rise, one or multi-component urethane adhesive formulated to attach roof insulation to substrate or to another insulation layer.
 3. Full-Spread Applied Insulation Adhesive: Insulation manufacturer's recommended spray-applied, low-rise, two-component urethane adhesive formulated to attach roof insulation to substrate or to another insulation layer.
- C. Cover Board: ASTM C 1177/C 1177M, glass-mat, water-resistant gypsum substrate, 1/2 inch (13 mm) thick by Membrane Manufacturer.

2.6 WALKWAYS

- A. Flexible Walkways: Factory-formed, nonporous, heavy-duty, slip-resisting, surface-textured walkway pads, approximately 3/16 inch (5 mm) thick, and acceptable to membrane roofing system manufacturer.

2.7 MISCELLANEOUS MATERIALS

- A. Cant Strips and Flashing Accessories; Types recommended by manufacturer of Single Ply Membrane material, provided at locations recommended by Manufacturer, and including adhesive tapes, flashing cements and sealants.
- B. Transition Flashing: Approved by single ply membrane manufacturer, for transitions between single ply roofing system and other conditions as shown on the drawings.
- C. Accessories:
 - 1. Tapered edge strip 1-1/2" x 6", 1-1/2" x 12" or 1-1/2" x 18" as required formed from wood fiberboard, ASTM C-208 in layers sufficient to transition insulation surfaces and as otherwise indicated on the drawings. Wood fiberboard shall be approved by membrane manufacturer for fully adhered system. Tapered edge strip by Cant Strip Co. or International Permalite, Inc.
 - 2. Tapered edge strips (1/2" to 0"), shall be provided at all insulation transitions from 1/2" edge of tapered insulation to avoid bridging of membrane.

2.8 ROOF ACCESSORIES

- A. Counter Flashing System: Provide two-piece and one-piece counter flashing system with surface-mounted reglet/receiver punched for fastening 12 inches on center as manufactured by Hickman Construction Products or comparable product of roof edge manufacturer. Reglet head shall be 0.050 aluminum with 0.032" aluminum flashing. Exposed surface shall have Group II KYNAR 500 finish. Colors selected from manufacturer's standard
- B. Roof Drain System Materials: Provide Josam 21500 Series, Smith 1010 Series, Wade W-3100 Series, or Zurn Z-100 Series with accessories shown on drawings and with bottom outlet for caulked connection. Provide other model Numbers specifically noted on plans for special conditions. Roof drains shall have cast iron or aluminum strainers. Provide new roof drain clamp rings if existing clamp rings are damaged. Replace all drain clamp bolts with new stainless steel bolts.
- C. Vent Flashing for Single Ply Roof: Provide single ply membrane manufacturer's standard pre-molded vent pipe flashing with integral deck flange. Top of vent pipes shall be approximately 1'-0" above roof membrane surface. Set flashing in mastic at pipe and clamp with stainless steel clamping ring. Splice integral deck flange to membrane in accordance with membrane manufacturer's recommendations.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine substrates, areas, and conditions, with Installer present, for compliance with the following requirements and other conditions affecting performance of roofing system:
 - 1. Verify that roof openings and penetrations are in place and curbs are set and braced and that roof drain bodies are securely clamped in place.
 - 2. Verify that wood blocking, curbs, and nailers are securely anchored to roof deck at penetrations and terminations and that nailers match thicknesses of insulation.
 - 3. Verify that material that will impair adhesion of roofing components to roof deck have been removed.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

- A. Clean substrate of dust, debris, moisture, and other substances detrimental to roofing installation according to roofing system manufacturer's written instructions. Remove sharp projections.
- B. Prevent materials from entering and clogging roof drains and conductors and from spilling or migrating onto surfaces of other construction. Remove roof-drain plugs when no work is taking place or when rain is forecast.
- C. Complete terminations and base flashings and provide temporary seals to prevent water from entering completed sections of roofing system at the end of the workday or when rain is forecast. Remove and discard temporary seals before beginning work on adjoining roofing.

3.3 VAPOR BARRIER/TEMPORARY ROOF INSTALLATION

- A. Temporary Roof/Vapor Barrier: Prime substrate as required by manufacturer. Install temporary roof/vapor retarder over entire roof area side and end lapping each sheet a minimum of 3-1/2 inches (90 mm) and 6 inches (150 mm), respectively.
- B. Set membrane in one-part or two-part cold-applied SBS adhesive as recommended by manufacturer. Heat-weld all seams. Observe Manufacturer's Requirements for moisture content of substrate.
- C. Completely seal temporary roof/vapor barrier at terminations, obstructions, and penetrations to prevent water and air movement. Heat-weld all seams.

3.4 INSULATION INSTALLATION

- A. Coordinate installing membrane roofing system components so insulation is not exposed to precipitation or left exposed at the end of the workday.
- B. Comply with membrane roofing system and insulation manufacturer's written instructions for installing roof insulation.
- C. Install tapered insulation under area of roofing to conform to slopes indicated.
- D. Install insulation under area of roofing to achieve required thickness. Where overall insulation thickness is 2.0 inches or greater, install two or more layers with joints of each succeeding layer staggered from joints of previous layer a minimum of 6 inches (150 mm) in each direction.
- E. Trim surface of insulation where necessary at roof drains so completed surface is flush and does not restrict flow of water.
- F. Install insulation with long joints of insulation in a continuous straight line with end joints staggered between rows, abutting edges and ends between boards. Fill gaps exceeding 1/4 inch (6 mm) with insulation.
 - 1. Cut and fit insulation within 1/4 inch (6 mm) of nailers, projections, and penetrations.
- G. Adhered Insulation: Install each layer of insulation and adhere to vapor barrier/temporary roof as follows:
 - 1. Set each layer of insulation in a uniform coverage of insulation adhesive, firmly pressing and maintaining insulation in place.
 - 2. Adhere according to manufacturer's recommendations for ASCE-7 pressures specified and requirements in FMG's "Approval Guide" for specified Windstorm Resistance Classification to resist uplift pressure at corners, perimeter, and field of roof.

3.5 ADHERED MEMBRANE ROOFING INSTALLATION

- A. Install roofing membrane over area to receive roofing according to membrane roofing system manufacturer's written instructions for FMG Class 1.90 Windstorm Resistance Classification and ASCE-7 pressures specified. Unroll roofing membrane and allow to relax before installing.
- B. Start installation of membrane roofing in presence of membrane roofing system manufacturer's technical personnel.
- C. Accurately align membrane roofing and maintain uniform side and end laps of minimum dimensions required by manufacturer. Stagger end laps.
- D. Bonding Adhesive: Apply to substrate and underside of membrane roofing at rate required by manufacturer and allow to partially dry

before installing membrane roofing. Do not apply to splice area of membrane roofing.

- E. Adhesively fasten roofing membrane securely at terminations, penetrations, and perimeter of roofing.
- F. Adhere perimeter of roofing membrane according to requirements of ASCE-7 pressures specified.
- G. Apply membrane roofing with side laps shingled with slope of roof deck where possible.
- H. Seams: Clean seam areas, overlap membrane roofing, and hot-air weld side and end laps of membrane roofing and sheet flashings according to manufacturer's written instructions to ensure a watertight seam installation.
 - 1. Test lap edges with probe to verify seam weld continuity. Apply lap sealant to seal cut edges of sheet membrane.
 - 2. Verify field strength of seams a minimum of twice daily and repair seam sample areas.
 - 3. Repair tears, voids, and lapped seams in roofing that does not comply with requirements.
- I. Spread sealant bed over deck drain flange at roof drains and securely seal membrane roofing in place with clamping ring.
- J. Strip all cut edges in field and flashing membrane that expose internal fabric reinforcing scrim with minimum 4-inch wide non-reinforced TPO flashing material even if it is not required by the Roofing Manufacturer. Pressure sensitive products are not acceptable and will be rejected.

3.6 BASE FLASHING INSTALLATION

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

3.7 WALKWAY INSTALLATION

- A. Flexible Walkways: Install walkway products in locations directed by the Architect. Provide a total of 100 lineal feet of flexible walkways in place in the Base Bid. Heat weld to substrate or adhere walkway products to substrate with compatible adhesive according to roofing system manufacturer's written instructions.

3.8 FIELD QUALITY CONTROL

- A. Final Roof Inspection: Arrange for roofing system manufacturer's technical personnel to inspect roofing installation on completion and submit report to Architect.
 - 1. Notify Architect and Owner 48 hours in advance of date and time for inspection.
- B. Repair or remove and replace components of membrane roofing system where inspections indicate that they do not comply with specified requirements.
- C. Additional inspections, at Contractor's expense, will be performed to determine compliance of replaced or additional work with specified requirements.

3.9 PROTECTING AND CLEANING

- A. Protect membrane roofing system from damage and wear during remainder of construction period. When remaining construction will not affect or endanger roofing, inspect roofing for deterioration and damage, describing its nature and extent in a written report, with copies to Architect and Owner.
- B. Correct deficiencies in or remove membrane roofing system that does not comply with requirements; repair substrates; and repair or reinstall membrane roofing system to a condition free of damage and deterioration at time of Substantial Completion and according to warranty requirements.
- C. Clean overspray and spillage from adjacent construction using cleaning agents and procedures recommended by manufacturer of affected construction.

3.10 ROOFING INSTALLER'S WARRANTY

- A. WHEREAS <Insert name> of <Insert address>, herein called the "Roofing Installer," has performed roofing and associated work ("work") on the following project:
 - 1. Owner: <Insert name of Owner>.
 - 2. Address: <Insert address>.
 - 3. Building Name/Type: <Insert information>.
 - 4. Address: <Insert address>.
 - 5. Area of Work: <Insert information>.

6. Acceptance Date: <Insert date>.
7. Warranty Period: <Insert time>.
8. Expiration Date: <Insert date>.

- B. AND WHEREAS Roofing Installer has contracted (either directly with Owner or indirectly as a subcontractor) to warrant said work against leaks and faulty or defective materials and workmanship for designated Warranty Period,
- C. NOW THEREFORE Roofing Installer hereby warrants, subject to terms and conditions herein set forth, that during Warranty Period he will, at his own cost and expense, make or cause to be made such repairs to or replacements of said work as are necessary to correct faulty and defective work and as are necessary to maintain said work in a watertight condition.
- D. This Warranty is made subject to the following terms and conditions:
1. Specifically excluded from this Warranty are damages to work and other parts of the building, and to building contents, caused by:
 - a. Lightning;
 - b. Peak gust wind speed exceeding <Insert wind speed> mph (m/sec);
 - c. Fire;
 - d. Failure of roofing system substrate, including cracking, settlement, excessive deflection, deterioration, and decomposition;
 - e. Faulty construction of parapet walls, copings, chimneys, skylights, vents, equipment supports, and other edge conditions and penetrations of the work;
 - f. Vapor condensation on bottom of roofing; and
 - g. Activity on roofing by others, including construction contractors, maintenance personnel, other persons, and animals, whether authorized or unauthorized by Owner.
 2. When work has been damaged by any of foregoing causes, Warranty shall be null and void for the area affected for the balance of the warranty period until such damage has been repaired by Roofing Installer and until cost and expense thereof have been paid by Owner or by another responsible party so designated.
 3. Roofing Installer is responsible for damage to work covered by this Warranty but is not liable for consequential damages to building or building contents resulting from leaks or faults or defects of work.
 4. During Warranty Period, if Owner allows alteration of work by anyone other than Roofing Installer, including cutting, patching, and maintenance in connection with penetrations, attachment of other work, and positioning of anything on roof, this Warranty shall become null and void for the area affected on date of said alterations, but only to the extent said alterations affect work covered by this Warranty. If Owner engages Roofing Installer to perform said alterations, Warranty shall not become null and void for the area affected unless Roofing Installer, before starting said work, shall have notified Owner in writing, showing reasonable cause for claim, that said alterations would likely damage or deteriorate work, thereby reasonably justifying a limitation or termination of this Warranty for the area affected.
 5. During Warranty Period, if original use of roof is changed and it becomes used for, but was not originally specified for, a

promenade, work deck, spray-cooled surface, flooded basin, or other use or service more severe than originally specified, this Warranty shall become null and void for the area that has been changed on date of said change, but only to the extent said change affects work covered by this Warranty.

6. Owner shall promptly notify Roofing Installer of observed, known, or suspected leaks, defects, or deterioration and shall afford reasonable opportunity for Roofing Installer to inspect work and to examine evidence of such leaks, defects, or deterioration. Owner's failure to notify shall not void the Warranty; however, the discovery of a leak, defect or deterioration shall begin the commencement of the statutory period for the filing of a legal claim by the Owner.
7. This Warranty is recognized to be the only warranty of Roofing Installer on said work and shall not operate to restrict or cut off Owner from other remedies and resources lawfully available to Owner in cases of roofing failure. Specifically, this Warranty shall not operate to relieve Roofing Installer of responsibility for performance of original work according to requirements of the Contract Documents, regardless of whether Contract was a contract directly with Owner or a subcontract with Owner's General Contractor.

E. IN WITNESS THEREOF, this instrument has been duly executed this <Insert day> day of <Insert month>, <Insert year>.

1. Authorized Signature: <Insert signature>.
2. Name: <Insert name>.
3. Title: <Insert title>.

END OF SECTION 07543

SECTION 07600 - SHEET METAL AND FLASHING

PART 1 - GENERAL

RELATED DOCUMENTS

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

SUMMARY

This Section includes the following:

- Metal counter flashing.
- Metal wall flashing and expansion joints.
- Exposed metal trim.
- Miscellaneous sheet metal accessories.
- Stainless Steel Reglet Flashing.

Roofing accessories installed integral with roofing membrane are specified in roofing system sections as roofing work.

Roof accessory units of premanufactured, set-on type are specified in Roofing System Sections of Division 7 as roofing work, such as pre-manufactured coping caps.

SUBMITTALS

General: Submit the following in accordance with Conditions of Contract and Division 1 Specification Sections.

Product data, Flashing, Sheet Metal, and Accessories: Manufacturer's technical product data, installation instructions and general recommendations for each specified sheet material and fabricated product.

Samples of the following flashing, sheet metal, and accessory items:

- 8-inch-square samples of specified sheet materials to be exposed as finished surfaces.
- 12-inch long section of edge strip
- 12-inch long section of expansion joint.

Shop drawings showing layout, profiles, methods of joining, and anchorages details, including major counterflashings, trim/fascia units, and expansion joint systems. Provide layouts at 1/4-inch scale and details at 3-inch scale.

WARRANTY

Finish Warranty: Furnish manufacturer's written warranty covering failure of the factory-applied exterior finish on sheet metal within the warranty period. This warranty shall be in addition to and not a limitation of other rights the Owner may have against the Contractor under the Contract Documents.

Warranty period for factory-applied exterior finishes on sheet metal is 20 years after the date of Substantial Completion.

Performance Warranty: Provide performance warranty from Contractor agreeing to repair or replace work with defects in material or workmanship for a period of five (5) years.

PROJECT CONDITIONS

Coordinate work of this section with interfacing and adjoining work for proper sequencing of each installation. Ensure best possible weather resistance and durability of work and protection of materials and finishes.

PART 2 - PRODUCTS

General: The type and locations of the various kinds, gauges, thickness and finish of sheet metal to be used as specified hereinafter under the individual items; however, where sheet metal is indicated on drawings and kind or type of metal is not definitely specified or noted, aluminum sheet or formed goods shall be provided. The thicknesses shall be in accordance with the table under "A" following. Alloy and temper of all sheets shall be ASTM B209, Alloy 3003, Temper H-14.

TABLE 'A'

<u>Item</u>	<u>Minimum Thickness</u>
Counter Flashing	0.040
Edge Strips	0.032
Continuous Roll Formed Gutters	0.040
Cleats, Continuous	0.040
Expansion Joint, Building	0.040

Dimensional Tolerances of sheet shall conform to Aluminum Standards and Data published by the Aluminum Association.

METAL FINISHES

General: Apply coatings either before or after forming and fabricating sheet metal and bar stock, as required by coating process and as required for maximum coating performance capability. Protect coating by application of strippable film. Furnish air-drying spray finish in matching color for touch-up.

Color: As selected by Architect from manufacturer's standard and premium colors provide a minimum selection of 25 colors.

Fluoropolymer Coating: Manufacturer's standard two-coat, thermo-cured, full-strength 70 percent "Kynar 500" coating consisting of a primer and a minimum 0.75-mil dry film thickness with a total minimum dry film thickness of 0.9 mil and 30 percent reflective gloss when tested in accordance with ASTM D 523.

Durability: Provide coating that has been field tested under normal range of weathering conditions for minimum of 20 years without significant peel, blister, flake, chip, crack, or check in finish; without chalking in excess of No. 8 in accordance with ASTM D 659; and without fading in excess of 5 NBS units.

Stainless Steel Reglet Flashings: Reglet flashings embedded in masonry construction and as indicated elsewhere shall be fabricated of 26-gauge stainless steel Type 302 or 304, #2D finish in the configuration shown on the Drawings. Prefinished aluminum counter flashing specified flowing shall be inserted in stainless steel reglet and secured with stainless steel EC fasteners 24 inches minimum on center.

Metallic-Coated Steel Sheet Fascia: Restricted flatness steel sheet, metallic coated by the hot-dip and prepainted by the coil-coating process to comply with ASTM A 755/A 755M.

1. Aluminum-Zinc Alloy-Coated Steel Sheet (Galvalume) ASTM A 792/A 792M, Class AZ50 coating designation, Grade 40 (Class AZM150 coating designation, Grade 275); structural quality, 24 gauge.
2. Surface: Smooth, flat and with manufacturer's standard clear acrylic coating on both sides.

Miscellaneous Materials and Accessories:

Cleats shall be aluminum of the same alloy, temper and thickness as the sheet being applied unless otherwise specified. Cleats shall be continuous and long enough to be fully incorporated into the seam with the other end folded back over the nail heads.

Fasteners: Same metal as flashing/sheet metal or other non-corrosive metal as recommended by sheet manufacturer. Match finish of exposed heads with material being fastened. Provide stainless steel fasteners when securing into pressure-treated wood.

Bituminous Coating: SSPC - Paint 12, solvent-type bituminous mastic, nominally

free of sulfur, compounded for 15-mil dry film thickness per coat.

Epoxy Seam Sealer: 2-part noncorrosive metal seam cementing compound, recommended by metal manufacturer for exterior/interior nonmoving joints including riveted joints.

Paper Slip Sheet: 5-lb. rosin-sized building paper.

Metal Accessories: Provide sheet metal clips, straps, anchoring devices, and similar accessory units as required for installation of work, matching or compatible with material being installed, noncorrosive, size and gage required for performance.

Counter Flashing Receiver: Provide stainless steel sheet: ASTM A240/A240M, Type 304. Finish No. 2d (dull cold rolled) 26 gauge.

Counter Flashing Receiver to Wall Flashing System: Provide 40 mil membrane composed of 32 mils of pliable and highly adhesive rubberized asphalt compound bonded to an 8 mil high density, cross-laminated polyethylene film. Perm-A-Barrier wall flashing by W. R. Grace & Co. or equal. Provide low VOC rubber based primer at all wood, gypsum and masonry substrates.

Sealants: Provide manufacturer's standard, non modified, 2 or more part, polysulfide based, elastomeric sealant, complying with ASTM C-920, Type M, Class 25.

Plastic Cement: Asphalt plastic cement conforming to ASTM Specifications D 4586, asbestos free.

Miscellaneous Fabrications: Provide stainless steel sheet: ASTM A240/As40M, Type 304 finish 2d, (dull cold rolled) 26 gauge.

FABRICATED UNITS

General Metal Fabrication: Shop-fabricate work to greatest extent possible. Unless otherwise shown, comply with details shown and with applicable requirements of SMACNA "Architectural Sheet Metal Manual" and other recognized industry practices. Fabricate for waterproof and weather-resistant performance, with expansion provisions for running work, sufficient to permanently prevent leakage, damage, or deterioration of the work. Form work to fit substrates. Comply with material manufacturer instructions and recommendations for forming material. Form exposed sheet metal work without excessive oil-canning, buckling, and tool marks, true to line and levels indicated, with exposed edges folded back to form hems.

Seams: Fabricate nonmoving seams in sheet metal with flat-lock seams. Form aluminum seams with epoxy seam sealer; rivet joints for additional strength.

Expansion Provisions: Where lapped or bayonet-type expansion provisions in work cannot be used or would not be sufficiently water/weatherproof, form expansion joints of intermeshing hooked flanges, not less than 1 inch deep, filled with mastic sealant (concealed within joints).

Sealant Joints: Where movable, nonexpansion type joints are indicated or required

for proper performance of work, form metal to provide for proper installation of elastomeric sealant, in compliance with SMACNA standards.

Separations: Provide for separation of metal from noncompatible metal or corrosive substrates by coating concealed surfaces at locations of contact, with bituminous coating or other permanent separation as recommended by manufacturer/fabricator.

PART 3 - EXECUTION

INSTALLATION REQUIREMENTS

General: Except as otherwise indicated, comply with manufacturer's installation instructions and recommendations and with SMACNA "Architectural Sheet Metal Manual." Anchor units of work securely in place by methods indicated, providing for thermal expansion of metal units; conceal fasteners where possible, and set units true to line and level as indicated. Install work with laps, joints, and seams that will be permanently watertight and weatherproof.

Underlayment: Where stainless steel or aluminum is to be installed directly on cementitious or wood substrates, install a slip sheet of red rosin paper and a course of polyethylene underlayment.

Bed flanges of work in a thick coat of bituminous roofing cement where required for waterproof performance.

Install flashing receivers to receive counterflashing in manner and by methods indicated. Where shown in concrete, furnish reglets to trades of concrete work for installation as work of Division 3 sections. Where shown in masonry, furnish reglets to trades of masonry work, for installation as work of Division 4 sections. Provide stainless steel cover plates set in mastic for continuous waterproof assembly. Provide end dams at all terminations of receivers.

Install counterflashing in reglets, with stainless steel rivets 12 inches on center.

Nail flanges of expansion joint units to curb nailers, at maximum spacing of 6 inches o.c. Fabricate seams at joints between units with minimum 3-inch overlap, to form a continuous, waterproof system.

CLEANING AND PROTECTION

Clean exposed metal surfaces, removing substances that might cause corrosion of metal or deterioration of finishes.

Protection: Advise Contractor of required procedures for protection of flashings and sheet metal work during construction to ensure that work will be without damage or deterioration other than natural weathering at time of Substantial Completion.

END OF SECTION 07600

SECTION 07900 - JOINT SEALERS

PART 1 - GENERAL

RELATED DOCUMENTS:

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

SUMMARY:

Extent of each form and type of joint sealer is indicated on drawings and schedules.

This Section includes joint sealers for the following locations:

Exterior joints in vertical surfaces and nontraffic horizontal surfaces as indicated below.

Joints between different materials listed above.
Other joints as indicated.

Sealing joints related to flashing and sheet metal for roofing is specified in Division-7 Section: "Flashing and Sheet Metal."

SYSTEM PERFORMANCES:

Provide joint sealers that have been produced and installed to establish and maintain watertight and airtight continuous seals.

SUBMITTALS:

Product Data from manufacturers for each joint sealer product required, including instructions for joint preparation and joint sealer application.

Samples for Initial Selection Purposes: Manufacturer's standard bead samples consisting of strips of actual products showing full range of colors available, for each product exposed to view.

Certificates from manufacturers of joint sealers attesting that their products comply with specification requirements and are suitable for the use indicated.

QUALITY ASSURANCE:

Single Source Responsibility for Joint Sealer Materials: Obtain joint sealer materials from a single manufacturer for each different product required.

Product Testing: Provide comprehensive test data for each type of joint sealer

based on tests conducted by a qualified independent testing laboratory on current product formulations within a 24-month period preceding date of Contractor's submittal of test results to Architect.

Test elastomeric sealants for compliance with requirements specified by reference to ASTM C 920. Include test results for hardness, stain resistance, adhesion and cohesion under cyclic movement (per ASTM C 719), low-temperature flexibility, modulus of elasticity at 100 percent strain, effects of heat aging, and effects of accelerated weathering.

Preconstruction Field Testing: Prior to installation of joint sealants, field-test their adhesion to joint substrates.

DELIVERY, STORAGE, AND HANDLING:

Deliver materials to Project site in original unopened containers or bundles with labels informing about manufacturer, product name and designation, color, expiration period for use, pot life, curing time, and mixing instructions for multicomponent materials.

Store and handle materials in compliance with manufacturers' recommendations to prevent their deterioration or damage due to moisture, high or low temperatures, contaminants, or other causes.

PROJECT CONDITIONS:

Environmental Conditions: Do not proceed with installation of joint sealers under the following conditions:

When ambient and substrate temperature conditions are outside the limits permitted by joint sealer manufacturer or below 40 deg F (4.4 deg C).

When joint substrates are wet due to rain, frost, condensation, or other causes.

Joint Width Conditions: Do not proceed with installation of joint sealers where joint widths are less than allowed by joint sealer manufacturer for application indicated.

Joint Substrate Conditions: Do not proceed with installation of joint sealers until contaminants capable of interfering with their adhesion are removed from joint substrates.

PART 2 - PRODUCTS

MATERIALS, GENERAL:

Compatibility: Provide joint sealers, joint fillers and other related materials that are compatible with one another and with joint substrates under conditions of service and application, as demonstrated by sealant manufacturer based on testing

and field experience.

Colors: Provide color of exposed joint sealers indicated or, if not otherwise indicated, as selected by Architect from manufacturer's standard colors.

ELASTOMERIC JOINT SEALANTS:

Elastomeric Sealant Standard: Provide manufacturer's standard chemically curing, elastomeric sealant of base polymer indicated which complies with ASTM C 920 requirements, including those referenced for Type, Grade, Class, and Uses.

One-Part Nonacid-Curing Silicone Sealant: Type S, Grade NS, Class 25, and complying with the following requirements for Uses and additional joint movement capability:

Uses NT, M, G, A, and, as applicable to joint substrates indicated, O.

Additional capability, when tested for adhesion and cohesion under maximum cyclic movement per ASTM C 719, to withstand the following percentage changes in joint width as measured at time of application and remain in compliance with other requirements of ASTM C 920 for Uses indicated:

100 percent movement in extension and 50 percent movement in compression for a total of 150 percent movement.

One-Part Mildew-Resistant Silicone Sealant: Type S; Grade NS; Class 25; Uses NT, G, A, and, as applicable to nonporous joint substrates indicated, O; formulated with fungicide; intended for sealing interior joints with nonporous substrates and subject to in-service exposure to conditions of high humidity and temperature extremes.

Multi-Part Pourable Urethane Sealant for Use T: Type M, Grade P, Class 25, and complying with the following requirements for Uses:

Uses T, M, A, and, as applicable to joint substrates indicated, O.

Available Products: Subject to compliance with requirements, elastomeric sealants which may be incorporated in the Work include, but are not limited to, the following:

Products: Subject to compliance with requirements, provide one of the following:

One-Part Nonacid-Curing Silicone Sealant:

"Dow Corning 795"; Dow Corning Corp.

"Silpruf SCS 2000"; General Electric Co.

"Spectrum 1"; Tremco, Inc.

JOINT SEALANT BACKING:

General: Provide sealant backings of material and type which are nonstaining; are compatible with joint substrates, sealants, primers and other joint fillers; and are approved for applications indicated by sealant manufacturer based on field experience and laboratory testing.

Plastic Foam Joint Fillers: Preformed, compressible, resilient, nonwaxing, nonextruding strips of flexible, nongassing plastic foam of material indicated below; nonabsorbent to water and gas; and of size, shape and density to control sealant depth and otherwise contribute to producing optimum sealant performance.

Either open-cell polyurethane foam or closed-cell polyethylene foam, unless otherwise indicated, subject to approval of sealant manufacturer, for cold-applied sealants only.

Bond-Breaker Tape: Polyethylene tape or other plastic tape as recommended by sealant manufacturer for preventing sealant from adhering to rigid, inflexible joint filler materials or joint surfaces at back of joint where such adhesion would result in sealant failure. Provide self-adhesive tape where applicable.

MISCELLANEOUS MATERIALS:

Primer: Provide type recommended by joint sealer manufacturer where required for adhesion of sealant to joint substrates indicated, as determined from preconstruction joint sealer-substrate tests and field tests.

Cleaners for Nonporous Surfaces: Provide nonstaining, chemical cleaners of type which are acceptable to manufacturers of sealants and sealant backing materials, which are not harmful to substrates and adjacent nonporous materials, and which do not leave oily residues or otherwise have a detrimental effect on sealant adhesion or in-service performance.

Masking Tape: Provide nonstaining, nonabsorbent type compatible with joint sealants and to surfaces adjacent to joints.

PART 3 - EXECUTION

EXAMINATION:

Examine joints indicated to receive joint sealers, with Installer present, for compliance with requirements for joint configuration, installation tolerances and other conditions affecting joint sealer performance. Do not proceed with installation of joint sealers until unsatisfactory conditions have been corrected.

PREPARATION:

Surface Cleaning of Joints: Clean out joints immediately before installing joint sealers to comply with recommendations of joint sealer manufacturers and the following requirements:

Remove all foreign material from joint substrates which could interfere with adhesion of joint sealer, including dust; paints, except for permanent, protective coatings tested and approved for sealant adhesion and compatibility by sealant manufacturer; old joint sealers; oil; grease; waterproofing; water repellants; water; surface dirt; and frost.

Clean concrete, masonry, unglazed surfaces of ceramic tile and similar porous joint substrate surfaces, by brushing, grinding, blast cleaning, mechanical abrading, or a combination of these methods to produce a clean, sound substrate capable of developing optimum bond with joint sealers. Remove loose particles remaining from above cleaning operations by vacuuming or blowing out joints with oil-free compressed air.

Remove laitance and form release agents from concrete.

Clean metal, glass, porcelain enamel, glazed surfaces of ceramic tile; and other nonporous surfaces by chemical cleaners or other means which are not harmful to substrates or leave residues capable of interfering with adhesion of joint sealers.

Joint Priming: Prime joint substrates where indicated or where recommended by joint sealer manufacturer based on preconstruction joint sealer-substrate tests or prior experience. Apply primer to comply with joint sealer manufacturer's recommendations. Confine primers to areas of joint sealer bond, do not allow spillage or migration onto adjoining surfaces.

Masking Tape: Use masking tape where required to prevent contact of sealant with adjoining surfaces which otherwise would be permanently stained or damaged by such contact or by cleaning methods required to remove sealant smears. Remove tape immediately after tooling without disturbing joint seal.

INSTALLATION OF JOINT SEALERS:

General: Comply with joint sealer manufacturers' printed installation instructions applicable to products and applications indicated, except where more stringent requirements apply.

Elastomeric Sealant Installation Standard: Comply with recommendations of ASTM C 962 for use of joint sealants as applicable to materials, applications and conditions indicated.

Installation of Sealant Backings: Install sealant backings to comply with the following requirements:

Install joint fillers of type indicated to provide support of sealants during application and at position required to produce the cross-sectional shapes and

depths of installed sealants relative to joint widths which allow optimum sealant movement capability.

Do not leave gaps between ends of joint fillers.

Do not stretch, twist, puncture, or tear joint fillers.

Remove absorbent joint fillers which have become wet prior to sealant application and replace with dry material.

Install bond breaker tape between sealants and joint fillers, compression seals, or back of joints where adhesion of sealant to surfaces at back of joints would result in sealant failure.

Install compressible seals serving as sealant backings to comply with requirements indicated above for joint fillers.

Installation of Sealants: Install sealants by proven techniques that result in sealants directly contacting and fully wetting joint substrates, completely filling recesses provided for each joint configuration, and providing uniform, cross-sectional shapes and depths relative to joint widths which allow optimum sealant movement capability.

Tooling of Nonsag Sealants: Immediately after sealant application and prior to time skinning or curing begins, tool sealants to form smooth, uniform beads of configuration indicated, to eliminate air pockets, and to ensure contact and adhesion of sealant with sides of joint. Remove excess sealants from surfaces adjacent to joint. Do not use tooling agents which discolor sealants or adjacent surfaces or are not approved by sealant manufacturer.

Provide concave joint configuration unless otherwise indicated.

CLEANING:

Clean off excess sealants or sealant smears adjacent to joints as work progresses by methods and with cleaning materials approved by manufacturers of joint sealers and of products in which joints occur.

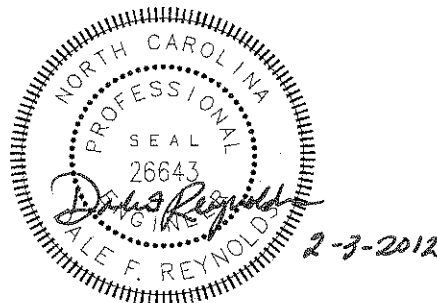
PROTECTION:

Protect joint sealers during and after curing period from contact with contaminating substances or from damage resulting from construction operations or other causes so that they are without deterioration or damage at time of Substantial Completion. If, despite such protection, damage or deterioration occurs, cut out and remove damaged or deteriorated joint sealers immediately and reseal joints with new materials to produce joint sealer installations with repaired areas indistinguishable from original work.

END OF SECTION 07900

ELECTRICAL SPECIFICATIONSBUNCOMBE COUNTY SCHOOLS
ERWIN HIGH SCHOOL
E WING ROOF REPLACEMENT
ASHEVILLE, NORTH CAROLINAESE PROJECT NO.: 7393ESSENTIAL SYSTEM ENGINEERING, P.A.
109 CENTRAL AVENUE
ASHEVILLE, NORTH CAROLINA, 28801
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JANUARY 31, 2012

SECTION 26 05 00

BASIC ELECTRICAL REQUIREMENTS

PART 1 GENERAL

1.1 REQUIREMENTS

- A. General Conditions of the Contract, Special Conditions, Instructions to Bidders, and other General Requirements contained in Division 01 and 02 are a part of these Specifications.

1.2 EXTENT OF THE WORK

- A. This Contractor shall furnish all labor, materials, and equipment, and perform all operations necessary for installation of complete electrical work within the intent of, and as indicated on, the drawings and as herein specified.
- B. Where discrepancies are noted in the drawings and specifications, the more stringent method shall prevail.

1.3 REGULATIONS AND COMPLIANCE

- A. Latest editions of the National Electrical Code and the North Carolina State Building Code govern this work; all their requirements shall be satisfied. All work shall comply with current governing codes, ordinances, and regulations of all National, State, and Local authorities having jurisdiction. Any discrepancies should be brought to the attention of the Engineer for resolution.
- B. Include all items or labor and material required to comply with such standards and codes. Where quantity, sizes, or other requirements on the drawings or called forth in these specifications are in excess of the standard or code requirements, the specifications or drawings, shall govern.
- C. Should any change in plans or specifications be required to comply with the governing regulations, the Contractor shall notify the Professional at the time of submitting his bid.
- D. This Contractor shall secure and pay for all permits, fees, inspections and licenses required. Upon completion of the job he shall present to the Engineer a certificate of inspection and approval from the inspection authorities.

1.4 DEFINITIONS:

- A. By other Trades: Shall mean by persons or parties who are not anticipated to be the contractor for this trade working together with the Prime Contractor. In this context the words "by other trades" shall be interpreted to mean not included in the overall contract, unless it is shown to be by another subcontractor.
- B. Concealed: Embedded in masonry or other construction, installed behind wall furring, above ceilings, in crawl spaces, in shafts or otherwise not visible.
- C. Contractor: As used in this Division of the specification refers to the Electrical Contractor unless specifically noted otherwise.
- D. Exposed: Not concealed.
- E. Furnish: Purchase and deliver to the project site complete with every necessary appurtenance and for installation.

- F. Install: Unload at the delivery point and perform every operation necessary to establish secure mounting and correct operation at the proper location in the project.
- G. Raceway: Conduit, fittings, hangers, supports, couplings, and items customarily required in connection with the installation and protection of wiring.
- H. Provide: Furnish and install complete ready for use.

PART 2 PRODUCTS

2.1 MATERIALS

- A. All materials shall be new, with required Underwriter's Laboratories label, and with manufacturer's label or nameplate giving complete electrical data.
- B. Where a manufacturer's catalog number is used, all parts shall be furnished to make it complete and to fit the construction intended.
- C. Within ten days after award, Contractor shall submit to Engineer a complete list in triplicate of all materials he proposes to use. List shall show a single manufacturer with not only major materials and equipment, but also such items as conduit fittings, raceway supports, conductive pipe thread compound, asphaltum, sealing material, clamps, anchors, outlet boxes, gutters, terminal cabinets, wire-pulling compound, splice connectors, tape, wire markers, lamps, etc.
- D. Material shall be the make and number given in these Specifications or shown on Drawings, or equivalent where specifically stated as being allowed. Equivalent items or materials will be subject to acceptance by the Engineer at submittal stage. If Contractor wishes to furnish a make or number other than that specified (or equivalent where allowed), he shall furnish complete, detailed data and obtain approval of the substitution in writing from the Engineer no later than 10 days prior to bid. In some cases, at the request of the Engineer, samples of the substitute items shall be submitted for review. Data (and sample if required) shall be submitted in a timely manner such that approval by Engineer can be returned to Contractor no later than 10 days prior to bid date. Data or sample not submitted in sufficient time to allow evaluation by Engineer will be automatically rejected.
- E. Engineer's review of samples, cut sheets, shop drawings, and other matter submitted by the Contractor shall not relieve the Contractor of responsibility for full compliance with the Drawings and Specifications. If a submitted item does not comply in any way (color, style, quality, function, or performance), Contractor shall call the specific non-compliance to the attention of the Engineer in writing in a cover letter to the submittals requesting a deviation from specifications. This does not imply that approval of requested deviation will be given, only that it will be reviewed.
- F. The following equipment shall be submitted for review:

[Edit to suit project]

1. 16011 Seismic Restraint Systems
2. 16110 Raceway, Boxes, and Supports
3. 16120 Wire and Cables
4. 16170 Grounding and Bonding
5. 16195 Equipment Identification Labels
6. 16400 Electrical Distribution System (Wiring Devices)

7. 16470 Distribution and Branch Circuit Panels
 8. 16500 Lighting
 9. 16720 Fire Alarm System
 10. 16740 Telephone/Computer Raceway System
 11. 16900 Control and Signal Wiring
- G. Engineer's review of submittals is not intended to confirm quantity counts of materials and equipment made by Contractor. Contractor is required to provide quantities of items as necessary for systems to function as described and shown on the plans and in these specifications.
- H. Specialty systems such as fire alarm systems, etc., that are included as part of the Electrical Contract shall be furnished and installed by an authorized representative of the manufacturer of the equipment supplied. This includes use of factory trained and authorized installers where required to fulfill manufacturer's warranty provisions.
- I. Submit cuts, shop drawings, and other descriptive materials requested of equipment, in three copies, or as required by the General Requirements section. Submittals will not be accepted or reviewed by the Engineer unless the electrical contractor's stamp signifying his review and approval is evident on the submittals.
- J. Materials should be inspected upon their arrival at the site to be sure they are correct. No extension of time for completion will be allowed because materials received are wrong. Completely adequate housing shall be provided on the site for orderly and careful storage of all materials and equipment. Nothing shall be stored outside except conduit, which may be stored in racks so it is at least 12 inches above ground and not subject to mud being spattered on it.
- K. Manufacturer or Vendor terms and conditions of sale are strictly between Vendor and Contractor. Approval of submittal data shall not be construed as approval of terms and conditions.
- L. By providing submittals to the contractor to be forwarded to the engineer for review, the equipment vendor is acknowledging review of the contract documents and installation details, and that the submitted product is suitable for application in the manner indicated in the contract documents. Upon request, and at no additional charge, the equipment vendor will provide to the engineer a letter from the manufacturer stating the product has been applied in accordance with manufacturers recommendations.

2.2 PAINTING

- A. Suitable finish coatings shall be provided under this section of the Specifications on all items of electrical equipment and wiring which are exposed. This shall consist of either an approved factory applied finish or an acceptable finish applied during or after installation. Equipment, which is furnished in, finishes such as stainless steel or satin aluminum are not to be painted. Exposed equipment and/or wiring in finished areas such as panel covers or surface raceway shall be supplied with factory applied prime coat and shall be professionally painted or enameled as directed to result in a completely coated and attractively finished manner. All such finishing shall be as directed by and shall be satisfactory to the Engineer.

PART 3 EXECUTION

3.1 GENERAL INSTALLATION

- A. The electrical drawings are diagrammatic only, and are intended to explain system function and define quality of materials and installation. They are not intended to define construction methods.
- B. Contractor shall keep on the site at all times one set of electrical drawings and specifications, and one set of drawings and specifications on the work of other trades. In addition, electrical contractor shall maintain one complete set of all electrical submittals and shop drawings at the site.
- C. The electrician shall check other trades' drawings, specifications, and shop drawings to see if there are any conflicts. If so, he shall contact the Engineer for instructions.
- D. The Contractor shall properly protect his work against damage by weather or other trades. All work shall be left well cleaned, and damaged finishes shall be restored to original condition.
- E. The Contractor shall place his own sleeves and notify other trades of chases and openings far enough ahead so they can be properly built in. Where any raceways, supports, etc., installed under the contract pierce the roof, suitable pitch pockets shall be provided and coordinated with the roofing contractor as necessary to be acceptable to the Engineer. Provide suitable fittings where any raceways or equipment cross expansion joints.
- F. See Supplementary General Conditions for definition of responsibility and work for trenching, backfilling, cutting, core drilling, and patching.
- G. Contractor should not scale drawings for outlet and equipment locations. Unless specifically dimensioned on drawings or defined in specifications, outlets and equipment shall be located as evidently intended or as detailed on Architectural drawings. Lighting outlets are to be centered or spaced symmetrically unless they are dimensioned. Any dimensions shown on the drawings shall be field verified by the contractor prior to rough in. All outlet and equipment locations shall be coordinated with the other trades. If any doubt arises, contact the Engineer prior to roughing.
- H. Contractor shall keep premises free of debris resulting from this work.

3.2 TESTS AND GUARANTEES

- A. All current-carrying phase conductors and neutrals shall be tested as installed, and before connections are made, for insulation resistance and accidental grounds. Each fixture and item of equipment for connection under the Contract shall be tested for insulation resistance from its conductors to its grounded surface or contact. These tests shall be done with a 500 volt (minimum) high voltage "megger."
 1. Minimum readings shall be one million (1,000,000) or more ohms for #6 AWG and smaller wire, 250,000 ohms or more for #4 AWG and larger wire, between conductors and between conductor and the grounding conductor.
 2. The contractor shall send a letter to the engineer certifying that the above has been done and showing the tabulation of the megger readings for each panel or feeder. This shall be done at least four (4) days prior to final inspection by the State Construction Office.
 3. At final inspection the SCO, the contractor shall furnish a megger and show the engineers and SCO representatives that the panels comply with the above requirements. He shall also furnish a clamp-on type ammeter and a voltmeter to take current and voltage readings as directed by SCO representatives.
- B. Validity of the ground path shall be assured by constant and careful attention to the thorough tightening of all couplings, connectors, locknuts, screws, bolts, etc., and by frequent checking of

the path resistance with a quality low-range ohmmeter. Resistance of the path should not exceed one ohm between any two points. If a reading in excess of this is observed, it shall be discussed with the Engineer for an appraisal of the condition.

- C. Contractor shall guarantee that the work is done in accordance with drawings and specifications, and that it is free of imperfect materials or defective workmanship. Anything unsatisfactory shall be corrected immediately and at Contractor's expense.
- D. For the period of one year after acceptance by the Owner, the Contractor shall replace, without any expense to the Owner, any imperfect materials or defective workmanship.

3.3 RECORD DRAWINGS/MANUALS

- A. Upon completion of the installation, Contractor shall submit to the Engineer marked prints of Drawings showing any changes made in circuits, location of equipment, panel boards, or any other revision in the Contract Drawings, for the Owner's use in maintenance work and for future additions and expansions. Marked changes shall also include changes due to change orders unless already recorded by revised drawing or bulletin drawing.
- B. These record drawings shall be submitted in one of two formats: either a clean, legible, marked set of black on white prints with all markings in distinguishable colored pencil such as red; or a set of reverse-run reproducible sepia prints marked in soft pencil so that blue-line black on white prints can be reproduced as required. The format to be used shall be as defined in the General Requirements section of the contract documents. If no format is defined, the marked black on white prints shall be submitted.
- C. Operation and Maintenance manuals shall be submitted to the Engineer at the end of the project prior to closeout of the project. Information included shall be a copy of all submittal data, shop drawings, and necessary operating and maintenance instructions and wiring diagrams on all major items of equipment and all special systems (fire alarm, intercom, etc.). Manual to include copy of letter to the engineer and owner certifying that the ground resistance test has been performed and stating the resistance measured.
Submit these manuals in the quantities and format described in the General Requirements Section.

END OF SECTION

SECTION 26 05 19
WIRES AND CABLES

PART 1 GENERAL

1.1 REQUIREMENTS

- A. All materials shall be U.L listed/labeled and shall be installed in conformance with the current National Electrical Code.

PART 2 PRODUCTS

2.1 MATERIALS

- A. Wires and cables shall be manufactured by American/Leviton, Hi-tech, Rome, Southwire, or Triangle.
- B. Normal trade standard "building wire" shall be copper. All wires and cables shall have copper conductors.
- C. Number 10 and smaller shall be solid; number 8 and larger shall be stranded.
- D. All sizes shall bear easily readable size and insulation grade marking along entire length.
- E. Insulation on #6 and smaller shall be suitably colored in manufacturing. Conductors #4 and larger may be identified with bands of proper color plastic tape near each termination and in each junction box.
- F. Insulation on service and feeders for shall be 600 volt Type XHHW or THHN/THWN unless shown otherwise on the drawings.
- G. Branch circuits shall be a minimum of #12, with 600 volt THHN/THWN insulation unless Code requires another type. Circuit wires carried through rows of fluorescent fixtures shall be at least Type RHH or THHN.
- H. Conductors in any location subject to temperatures higher than 60°C shall have insulation of a type approved by NEC for temperature encountered.
- I. (Interlocking armor, or corrugated, or smooth) aluminum Type MC cable may be used where necessary to fish into existing hollow wall spaces with prior approval for each specific instance by the engineer.
- J. Control and signal conductors shall be type and size indicated in those sections of the Specifications, or as indicated on drawings.

PART 3 EXECUTION

3.1 INSTALLATION

- A. All wiring shall be color coded:
1. On 208Y/120 Volt, 3 phase, 4 wire systems - phase A, black; phase B, red; phase C, blue; neutral, white. On 480Y/277 Volt, 3 phase, 4 wire systems - phase A, brown; phase B,

orange; phase C, yellow; neutral, light gray. On 575 volt, 3 phase, 3 wire systems – phase A, black, phase B, red, phase C, blue. Ground conductor on all systems shall be green. Equipment grounding conductor on all systems shall be green.

2. Unless noted or accepted otherwise, busses in panels and switchgear shall be considered "A", "B", and "C" from left to right, top to bottom, or front to back when facing equipment.
 3. Control wiring shall not use black, red, or blue; but shall use white for neutrals and green for grounding. Any other colors may be used but the coding shall provide same color between any two terminals being joined.
 4. Switch-legs, including "travelers" in 3-way and 4-way switching systems, shall be same color as phase leg.
- B. Joints in #10 and smaller wire may be either made with approved twist-type connectors such as Ideal, Buchanan, T&B, Scotch, etc. "Stakon" or other permanent type crimp connectors shall not be used for branch circuit wiring.
- C. Joints in #8 and larger wire shall be made with approved Burndy, T&B, or O.Z. Manufacturing Co., mechanical pressure type connectors or lugs along with their UL approved insulating covers.
- D. Manufactured insulators for connectors may be used, provided they cover completely and securely all exposed metal. If joints and splices are taped, they shall be carefully covered with top-grade Okonite, Scotch Brand, or approved equivalent plastic or rubber and friction, laid on with half laps to result in a joint insulation equivalent to that of the conductor insulation.
- E. Circuit joints shall not be made on twin screws of convenience receptacles. Make joints as described above and run single leads to receptacle.
- F. All wiring lugs throughout the project, including, but not limited to, breakers, panelboard/switchboard lugs, safety switch lugs, and transformers lugs, shall be rated for use with 75 °C conductors sized in accordance with NEC Table 310-16.
- G. Where connected under screw or bolt heads, stranded wire shall be fitted with a lug of proper size. Make solid conductor loops clockwise so as to be forced closed as screw is tightened. Only one solid wire loop may be held under a single screw.
- H. All connections shall be made tight.
- I. Wires within panelboards, terminal cabinets, and similar equipment shall be neatly radiused (squared), loosely "bunched" together, and held so with lacing or plastic ties at several places.
- J. Where paralleling of conductors is shown for feeders or service entrance, it is absolutely required they be exactly the same length between points of bonding together. Lay out side by side and cut to same length before drawing into raceways. Provide for each end of run a Burndy Q2A or W3A lug, or approved equal, and terminate parallel conductors at these lugs without cutting.

END OF SECTION

SECTION 26 05 23**CONTROL AND SIGNAL WIRING****PART 1 GENERAL****1.1 REQUIREMENTS**

- A. Shall conform with Article 725 of NEC.

PART 2 PRODUCTS**2.1 MATERIALS**

- A. Shall also conform with the following unless noted otherwise on drawings or in other sections of these Specifications:
1. Conductors shall be run in metal conduit, unless specifically stated otherwise. These shall be complete with outlet boxes, junction boxes, fittings, etc., conforming in all respects with Section 26 05 33.
 2. Conductors shall be #14 AWG minimum, stranded, and insulated with type THHN thermoplastic insulation rated for 600 volts.
 3. Conductors shall be colored in manufacture. Black, red, and blue shall be used only for connections of these wiring systems to proper phase in main wiring system. Color code throughout remainder of system shall be other colors selected by This Contractor, but same color shall be used between points of connection. In other words - do not change color at splices, in junction boxes, etc. White shall be reserved for neutral and green for grounding.
 4. In lieu of color coding, or in conjunction with, this Contractor shall identify each conductor using a label system, such as Brady labels, or equal. Each conductor shall be individually labeled with a distinctive number or number/letter combination at each termination point, including wire nut connections. A table shall be made identifying each conductor, its function, its origin, its final termination, etc. This table shall be typewritten and included in the final Operation and Maintenance Manuals and with a copy left in the main point of origin cabinet (such as fire alarm panel).
 5. Joints and connections shall be made as specified in Section 26 05 19.

PART 3 EXECUTION**3.1 THIS SECTION NOT USED**

END OF SECTION

SECTION 26 05 26**GROUNDING AND BONDING****PART 1 GENERAL****1.1 REQUIREMENTS**

- A. All systems and equipment shall be grounded in accordance with NEC Article 250.

PART 2 PRODUCTS**2.1 MATERIALS**

- A. Manufactured by Thomas & Betts, or approved equivalent.
- B. Bonding shall be done with insulated bonding bushings, (malleable iron-zinc plated, similar to "Steel City" type BG-800 series), and compression type lugs.
- C. Insulated grounding conductor shall be Type THHN/THWN run in heavy wall conduit, and of size shown on drawings or required by NEC

PART 3 EXECUTION**3.1 INSTALLATION**

- A. Any feeder raceway anywhere in the system, which enters a box or cabinet through part of a concentric knockout shall be fitted with a bonding bushing and jumper. The jumper shall be sized by NEC 1999 Table 250-66 and lugged to the box.
- B. Ground all fixed and portable appliances and equipment connected under this Contract with a green grounding conductor. This wire shall be carried inside the raceway and flex from equipment to nearest grounded portion of raceway system. Connect at both ends with suitable lugs.
- C. All grounding type receptacles shall have a green wire jumper from their grounding terminal to box in which mounted. Attach jumper to box, not plaster ring, with a bolt or Steel City #12" grounding clip or approved equal. Jumper shall, be sized by NEC with #12 minimum.

PART 3 EXECUTION**3.1 THIS SECTION NOT USED**

END OF SECTION

SECTION 26 05 33

RACEWAY, BOXES, AND SUPPORTS

PART 1 GENERAL

1.1 REQUIREMENTS

- A. All material shall be U.L. listed and shall be installed in conformance with the National Electrical Code.

PART 2 PRODUCTS

2.1 RACEWAYS

- A. Manufactured by Allied, Triangle, or Wheatland.
 - 1. Galvanized steel.
 - 2. Aluminum.
- B. Rigid metal conduit (RMC) shall be used for service entrance and panel feeders. RMC shall also be used for feeder or branch circuits run in poured concrete, underground, or exposed to weather, unless shown otherwise on plans. RMC shall also be used where indicated on plans.
- C. Electric metallic tubing (EMT) may be used for general branch circuits indoors unless indicated otherwise on plans or stated otherwise in these specifications.
- D. EMT couplings and connectors shall be compression-gland type of malleable steel, galvanized or sherardized. Connectors shall be insulated-throat type. Set screw, indentor, or cast type fittings are not acceptable.
- E. Galvanized "flex" in dry and "sealtite" in wet locations shall be used for connection to mechanical equipment or transformers, or for lighting fixture whips. Flex runs shall be no greater than six feet in length.

2.2 BOXES

- A. Manufactured by Midland Ross/Steel City, T&B, Raco, or Appleton.
- B. Galvanized or aluminum of gauge required by NEC.

2.3 FASTENINGS AND SUPPORTS

- A. Shall be of good quality, galvanized steel or other non-corroding material.

PART 3 EXECUTION

3.1 RACEWAY INSTALLATION

- A. Minimum raceway size shall be 3/4" unless noted otherwise (except underground).
- B. All runs of empty conduit only shall have a 100# nylon pull rope installed in the conduit.

- C. Rigid metal conduit shall be made up with full threads to which T&B "Kopre-Shield" compound has been applied, and butted in couplings. Utilize Z. Split or "Erickson" couplings where necessary. Attach rigid metal conduits with double locknuts - one inside and one outside - and fiber bushing.
- D. EMT conduit shall not be used in direct contact with earth (in/below slab on grade or underground), outdoors exposed to elements, where exposed to severe corrosive influence, and/or severe physical damage.
- E. Underground raceway runs, except under concrete floor slabs, shall have a minimum of 24" cover. Minimum underground raceway size shall be one (1) inch unless noted otherwise. Branch circuit raceways shall be installed in accordance with the NEC, and approved by the NEC as "suitable for direct burial". Where underground raceways (of any material) turn up to above grade (entry into building cavity, cabinets, equipment, etc.) the elbow required and stub-up out of the slab or earth shall be of rigid steel. Raceways run external to building foundation, except for branch circuit raceways, shall be encased in a minimum of three (3) inches concrete on all sides. Raceway encasement must have eighteen (18) inch minimum cover, except circuits operating at voltages above 600 Volts, which require a minimum cover of thirty (30) inches. Backfill shall be made in 6" layers - tamping each layer to a density of 95% of maximum possible. Install marker tape six (6) to eight (8) inches below finish grade over all underground raceways. All encasement installations are to be approved by engineer before encasement. All underground installations are to be approved by engineer before backfill.
- F. Grounding type insulated bushings shall be used where raceway enters boxes with concentric or oversized knockouts.
- G. Provide suitable fittings where raceway crosses building expansion joints.
- H. Securely fasten in place using approved strap or hanger within three feet of each termination and not over ten feet apart in runs.
- I. Run concealed in finished areas unless otherwise noted.
- J. Make all cuts square with hacksaw. Remove any burrs or shoulders by reaming.
- K. Installation shall meet seismic requirements of Section 26 05 48 of these specifications.
- L. All runs exposed and all runs above accessible ceilings shall be neat and square with building structure such as walls and ceiling/roof structures. Multiple parallel runs shall use trapeze supports where possible.
- M. "Flex" and "Sealtite" connections with T&B "Tite-Bite" and "Super-Tite" or approved equivalent fittings and shall have insulated throats.
- N. All raceway risers, elbows and other conduit fittings used to extend PVC raceway system to above grade or through slab shall be RMC.
- O. Fire alarm conduits shall be Fire Alarm EMT with E-Z PULL Coating, red in color.

3.2 BOX INSTALLATION

- A. Attach EMT with connector only.

- B. Outlet boxes shall be sized in accordance with NEC Section 370-16. All lighting outlet boxes shall have fixture studs. Device boxes shall be sectional type or 4" square equipped with plaster rings as required to mount the device. Set boxes edge flush with finished surface mounted in. Boxes may be installed at top or bottom of a masonry course. Masonry boxes installed in sawed block shall be galvanized steel. 1-1/4" and deeper plaster rings may be of die-cast aluminum.
- C. Where installed in suspended ceilings, outlet boxes shall be supported from the ceiling system using Caddy, or other, hangers specifically designed for such support. In addition, box shall be supported from the structure using 10 gauge steel wire run perpendicular to the ceiling plane. Device boxes installed in suspended ceilings shall be connected to rigid raceway portion of the wiring system with flexible whip not exceeding 6 feet in length.
- D. Where installed in metal stud partitions, wall boxes shall be supported by bracket with far side support leg, to eliminate box movement, using a system such as B-Line Double Side Support Bracket or equivalent by Steel City, Caddy, [[USE FOR INSTITUTIONAL/SCHOOL WORK --- Where installed in metal stud partitions, wall boxes shall be supported from two adjacent studs using a system such as B-Line Box Bracket Hanger Assembly, or equivalent by Steel City, . Caddy. Support on a single stud is not acceptable.]]
- E. Fixtures weighing more than six pounds shall be supported from the fixture stud.
- F. Where not shown differently on the drawings, mount:
1. Switch boxes 46" from finished floor to center. Boxes beside doors shall be mounted so edge of trim plate is 2" from edge of door trim on strike side.
 2. Telephone boxes 18" from finished floor to center and vertical. Boxes for wall phones shall be 46" from finished floor and vertical.
 3. Bracket light boxes as indicated on plans or as directed by Engineer.
 4. Clock outlet boxes 7'-0" from finished floor, or 6" below finished ceiling, to center.
 5. Panel cans 6'-4" ($\pm 4"$ in concrete block construction) from finished floor to top of can.
 6. Fire alarm pull stations 46" from finished floor to center.
 7. Fire alarm chimes, horns, flashing lights, etc., 80" minimum to 96" maximum above finished floor to bottom, to comply with ADA requirements.
- G. Where not shown differently on the drawings, mount boxes for receptacles to receive device in a vertical position and be:
1. Centered 18" above finished floor.
 2. Centered 6" above counters, shelves, or cabinets where apparently intended to be so placed.
 3. Centered 4" above high edge of backsplashes.
 4. Where devices are to be ganged, provide boxes to receive devices trimmed with a gang plate.

- H. As soon as installed, all raceway openings shall be closed with plastic inserts to prevent entrance of foreign matter during construction. All enclosures shall be kept clean of any foreign matter. Install Jordan "Kover-All" or equivalent plastic covers over outlet boxes ahead of plastering or painting.
- I. Junction and pull boxes for branch circuits and signal or communication systems shall be identified by spray painting the interior, exterior, and covers of the box. In addition, the box cover shall be labeled using a permanent, black marking pen to identify circuits or systems in box. Color code for spray painting of boxes shall be [[as specified in Section 26 05 53, part 2.1.D.]]] [as follows:
- | | | |
|-----|----------------------|---------------------|
| 1. | 575/332 power system | Yellow |
| 2. | 480/277 power system | Black |
| 3. | 120/208 power system | blue |
| 4. | Fire Alarm system | Red |
| 5. | Security system | Dark Red (Burgundy) |
| 6. | Emergency system(s) | Green |
| 7. | Telephone system | Orange |
| 8. | Computer/Data | Brown |
| 9. | Paging system | White |
| 10. | TV system | Purple]]]]]] |

3.3 FASTENINGS AND SUPPORTS INSTALLATION

- A. Inserts in masonry shall be lead, fiber, or plastic types installed in drilled holes. Wooden plugs shall not be used. Lead only shall be used on all exterior masonry or interior masonry subject to permanent moisture. Hung raceways shall be supported from the structure with rod supports at least 5/16" in diameter.
- B. All equipment and flat raceways attached to outside wall or interior walls subject to permanent moisture shall be shimmed out with non-corrodible material so as to provide 1/4" air space between wall and equipment or raceway.
- C. All materials, whether exposed or concealed, shall be firmly and adequately held in place. Fastening and support shall afford safety factor of three or higher.
- D. All fixtures, raceways, and equipment shall be supported from the structure. Nothing may be supported on suspended ceilings, including the hanger wires, unless definitely noted so on the drawings or specifically permitted by the Engineer.

****the following must be edited for State Construction jobs ****

- E. Where a recessed fluorescent, high intensity, or downlight fixture replaces a section or part of a ceiling tile, fixture is to be supported at two (2) diagonal (opposite) corners of the fixture (for fire rated ceiling support all four (4) corners or per the ceiling manufactures design criteria) to the steel frame of the building, and one wire for incandescent fixture under 15 lbs. Supports shall be provided with the same type of wire as used to support the lay-in ceiling track. Attach one end of the wire to one corner of the fixture and the other end to the building's structural system. The lay-in fixture shall then be screwed to the main runners of the lay-in ceiling track at all four (4) corners using sheet metal screws. Continuous row may use one wire (for 12" wide) or two wires (for 24" wide) each four feet plus row end supports. In addition, on T-grid systems, support clips shall be used to hold fixture firmly in grid.

- F. Recessed ceiling speakers, where specified with an enclosure, shall have the enclosure supported directly from the structure with a minimum of two 10 gauge wires run perpendicular to the ceiling and not pulling to one side. If recessed ceiling speaker is specified without an enclosure and is mounted in a suspended ceiling, the speaker shall be supported using T-Bar bridges such as Soundolier No. 81-8, or other device specifically designed for such support. In addition, each of the four corners of the ceiling grid block enclosing the speaker shall be supported from the structure using 10 gauge steel wire run perpendicular to the ceiling plane.
- G. Other devices using octagonal or 4" square ceiling boxes, such as smoke detectors, dome lights, exit signs, etc., where installed in suspended ceilings shall be supported from the ceiling system using Caddy, or other, hangers specifically designed for such support. In addition, each of the four corners of the grid block enclosing the box shall be supported from the structure using 10 gauge steel wires run perpendicular to the ceiling plane.
- H. Explosive set fastenings using the low-velocity type tool may be used. Extreme caution shall be exercised in their use. The resulting fastening shall be completely secure.

END OF SECTION

SECTION 26 05 50

SEISMIC & WIND RESTRAINTS

PART 1 - GENERAL

1.1 SCOPE

- A. No electrical equipment and system components in this project require seismic restraint per section 1613, Volume 1, North Carolina Building Code.
- B. Wind restraint is required for all rooftop components per Section 1609, Volume 1, North Carolina Building Code.
- C. The scope of this specification encompasses the necessary product specifications for wind restraints.

1.2 REQUIREMENTS

A. Responsibilities

- 1. The Contractor shall cause all wind restraint systems to be designed by a Manufacturer experienced in this type of work. This provision, however, shall not be construed as relieving the Contractor of his overall responsibility for the work.
- 2. The Contractor shall provide to the manufacturer of wind restraint systems a listing of all electrical equipment and components to be restrained, including areas, total weight, and all other data required by them.

B. Design – Wind Restraint Systems

The wind requirements for electrical equipment and components for this project for all components and systems shall comply with section 1609 of the North Carolina Building Code.

1.3 WIND CERTIFICATION

A. Wind Certification and Analysis:

- 1. Wind restraint requirements, calculations and Design shall be provided for all electrical equipment and components. Calculations shall be performed by registered professional engineer in the State of North Carolina.
- 2. Calculations to support wind restraint designs must be stamped by a registered professional engineer in the State of North Carolina.
- 3. A wind design Errors and Omissions insurance certificate must accompany submittals prepared by a licensed independent Consulting Engineer in the state of North Carolina.
- 4. The licensed professional engineer responsible for the design of the restraints shall review the restraint installation, and a sealed certificate of compliance shall be issued.

1.4 CODE AND STANDARDS REQUIREMENTS

- A. Applicable Codes
 - 1. International Building Code as adopted by the state of North Carolina with Amendments.
 - B. Where conflicts between documents exist, the more stringent requirement shall apply.
- 1.5 MANUFACTURER'S RESPONSIBILITY
- A. Manufacturer of restraint equipment shall have the following responsibilities:
 - 1. Determine restraint sizes and locations.
 - 2. Provide equipment and component restraints as scheduled or specified.
 - 3. Provide installation instructions, drawings and field supervision to the contractor to insure proper installation and performance of systems.

PART 2 - PRODUCTS

2.1 DESCRIPTION

- A. All restraint devices described in this section shall be products of a single manufacturer.

PART 3 - EXECUTION

3.1 General

- A. All restraint systems must be installed in strict accordance with the manufacturers written instructions.
- B. Installation of restraints must not cause any change of position of equipment, or raceway resulting in stresses or misalignment.
- C. No rigid connections between equipment and the building structure shall be made that degrade the noise and vibration control integrity.
- D. Any conflicts with other trades which will result in rigid contact with equipment or piping due to inadequate space or other unforeseen conditions should be brought to the architects/engineers attention prior to installation. Corrective work necessitated by conflicts after installation shall be at the responsible contractors' expense.
- E. Bring to the architects/engineers attention any discrepancies between the specifications and the field conditions or changes required due to specific equipment selection, prior to installation. Corrective work necessitated by discrepancies after installation shall be at the responsible contractors expense.
- F. Overstressing of the building structure must not occur because of overhead support of equipment. Contractor must submit loads to the structural engineer of record for approval.

END OF SECTION

SECTION 26 05 53

EQUIPMENT IDENTIFICATION LABELS

PART 1 GENERAL

1.1 NAMEPLATES

- A. Engraved laminated phenolic nameplates shall be required for all safety switches, panelboards, transformers, switchboards, motor control centers and other electrical equipment supplied for the project for identification of equipment controlled or served, phase, voltage, etc.
- B. Printed labels shall be required for all switches, outlets, and receptacles indicating panel and circuit from which served. Labels shall be thermal set, self-adhering, self laminating, clear with black lettering, typed/printed acrylic type.

PART 2 PRODUCTS

2.1 MATERIALS

- A. Nameplate material colors shall be:
 - 1. Blue surface with white core for 120/208 volt equipment.
 - 2. Black surface with white core for 277/480 volt equipment.
 - 3. Emergency power systems shall utilize Red core colored material in lieu of White.
 - 4. Bright red surface with white core for all equipment related to fire alarm system.
 - 5. Green with white core for all equipment related to emergency systems.
 - 6. Brown surface with white core for all equipment related to data systems.
- B. Label material colors shall, be black lettering on clear background, self-laminating.
- C. All empty conduit runs and conduit with conductors for future use shall be identified for use and shall indicate where they terminate. Identification shall be by metal bound thick paper tags (2" dia. Min), or pre-wired reinforced eyelet, med-weight paper tags (2" x 4") attached to conduit, conductor, or inside enclosure.
- D. All outlet boxes, junction boxes and pull boxes shall have their covers and exterior visible surfaces painted with colors to match surface color scheme outlined above. This includes covers on boxes above all type ceilings.

PART 3 EXECUTION

3.1 INSTALLATION

- A. Nameplates shall be securely attached to equipment with self-tapping stainless steel screws, and shall identify equipment controlled, attached, etc. Letters on equipment nameplates shall be 1/2 inch high minimum, on device labels 1/8" high minimum.
- B. Embossed, self-adhesive plastic tape is NOT acceptable for marking equipment.

END OF SECTION

SECTION 26 05 99

DEMOLITION REQUIREMENTS

PART 1 GENERAL

1.1 REQUIREMENTS

- A. General Conditions of the Contract, Special Conditions, Instructions to Bidders, and other General Requirements contained in Division 01 and 02 are a part of these Specifications.
- B. The owner has established this project shall generate minimal waste, coordinate management plan with general contractor to optimize salvage and recyclables with minimal waste, and for proper handling of waste generated by this project.

1.2 EXTENT OF THE WORK

- A. The Contractor shall furnish all labor, materials, and equipment, and perform all operations necessary for complete electrical work within the intent of, and as indicated on the drawings and as specified herein.
- B. Contractor shall remove all conduit, devices, device boxes, wiring, and any other electrical equipment rendered useless due to construction, found abandoned during construction, as indicated on plans, and noted herein. Only portions of raceway and device boxes concealed in walls which are to remain may be abandoned (after removal of all wiring and devices). Coordinate with ceiling plans to intercept raceway above accessible ceiling and terminate with screw cover junction box for future utilization by owner, provide blank cover on abandoned boxes (color and material to match devices in same area or adjacent surfaces).
- C. Removal of electrical circuit, raceway, and equipment shall be back to source or closest junction if feed through circuit, even if outside limits of construction. Contractor shall use caution to maintain integrity of system wiring and devices which will remain in-service, including re-circuiting of existing devices as required for maintaining operation of remaining devices and associated systems.
- D. Demolition of electrical shall be coordinated with project phasing, general contractor, and other trades to ensure continued operation of systems as necessary during different project phases.
- E. Final disposition of all existing equipment shall be coordinated with owner and general contractor to allow owner, the option of retaining equipment and devices removed. Equipment and/or devices not retained by owner shall be recycled (where possible) or disposed of by contractor. Recycle or salvage material should be separated from the total waste generated and recorded (by weight or volume based on material) for LEED documentation requirements. Coordinate with general contractor to maintain records of these materials for LEED credits at project completion.

1.3 REGULATIONS AND COMPLIANCE

- A. Latest editions of the National Electrical Code and the North Carolina State Building Code govern this work; all their requirements shall be satisfied. All work shall comply with current governing codes, ordinances, and regulations of all National, State, and Local authorities having jurisdiction. Any discrepancies should be brought to the attention of the Engineer for resolution.

- B. Include all items or labor and material required to comply with such standards and codes. Where quantity, sizes, or other requirements on the drawings or called forth in these specifications are in excess of the standard or code requirements, the specifications or drawings, shall govern.
- C. Refer to architectural demolition notes regarding procedures for potential existing hazardous materials if encountered during construction. Contractor to inspect lamps and ballast in all fluorescent and HID fixtures removed for Mercury content. Remove any lamps and/or ballast found to contain Mercury from fixtures and place in disposal container provided by contractor. Fixture housings and remaining fixtures (which contain no Mercury) are to be disposed on per normal procedures described in Section 1.2.E.
- D. This Contractor shall secure and pay for all permits, fees, inspections by Authority Having Jurisdiction, and licenses required. Upon completion of the job he shall present to the Engineer a certificate of inspection and approval from the inspection authorities.

PART 2 PRODUCTS

2.1 MATERIALS

- A. All restructuring materials for abandoned systems termination and accessibility shall be new, with required Underwriter's Laboratories label, with manufacturer's label or nameplate giving complete electrical data. Reference Specifications Section 26 05 00 for new material requirements.
- B. Safety and security systems such as fire alarm systems, etc., which are included as part of the Electrical Contract shall only be modified by an authorized representative of the manufacturer of the equipment supplied. This includes use of factory trained and authorized installers where required to fulfill manufacturer's performance and warranty provisions.
- C. Completely adequate housing shall be provided on the site for orderly and careful storage of all materials and equipment to be reused. Nothing shall be stored outside except conduit, which may be stored in racks so it is at least 12 inches above ground and not subject to mud being spattered on it.

2.2 PAINTING

- A. Suitable finish coatings shall be maintained or applied as applicable on all existing items of electrical equipment and wiring which are exposed. This shall consist of rejuvenation of existing approved factory applied finish or an acceptable finish applied during or after construction. Equipment in finishes such as stainless steel or satin aluminum are not to be painted. Exposed equipment and/or wiring in finished areas such as panel covers or surface raceway shall have prime coat applied and shall be professionally painted or enameled as directed to result in a completely coated and attractively finished manner. All such finishing shall be satisfactory to the Engineer and Architect

PART 3 EXECUTION

3.1 GENERAL INSTALLATION

- A. Electrical contractor to field verify existing conditions (circuit numbers, equipment locations, etc.) noted on plans before proceeding with any demolition work. Existing conditions are based on owner supplied information and limited site visits.

- B. The electrical drawings are diagrammatic only, and are intended to explain system function, materials and installation. They are not intended to define construction methods, coordinate all demolition work with Architectural demolition plans, new work plans and other trades before proceeding.
- C. Contractor shall keep on the site at all times one set of electrical drawings and specifications, and one set of drawings and specifications on the work of other trades.
- D. The electrician shall check other trades' drawings, specifications, and shop drawings to see if there are any conflicts. If so, he shall contact the Engineer for instructions.
- E. The Contractor shall properly protect his work against damage by weather or other trades. All work shall be left well cleaned, and damaged finishes shall be restored to original condition. Remove and store cover plates for existing devices which are to remain in area of renovation. Maintain records to insure correct reinstallation during finish work of devices or covers with identification information labels.
- F. The Contractor shall maintain existing sleeves, chases and openings necessary for continued operation of building systems. Notify General Contractor and other trades far enough ahead so they can be properly maintained. Where any raceways, supports, etc., under the contract pierce the roof, suitable pitch pockets shall be maintained/provided and coordinated with the roofing contractor as necessary to be acceptable to the Engineer. Provide suitable fittings where any raceways or equipment cross expansion joints.
- G. See Supplementary General Conditions for definition of responsibility and work for trenching, backfilling, cutting, core drilling, and patching. Coordinate necessary work with general contractor so not to duplicate services being preformed.
- H. Contractor should not scale drawings, unless specifically dimensioned on drawings or defined in specifications. Any dimensions shown on the drawings shall be field verified by the contractor. . If any doubt arises, contact the Engineer prior to proceeding.
- I. Contractor shall keep premises free of debris resulting from this work.

3.2 TESTS AND GUARANTEES

- A. Continuous operation of existing safety and security system shall be maintained at all times. All system modifications shall be coordinated with owner's representative, general contractor, alarm monitoring services, and local fire marshal before proceeding.
- B. Continuous validity of the ground path shall be assured by constant and careful attention to the thorough tightening of all couplings, connectors, locknuts, screws, bolts, etc., and by frequent checking of the path resistance with a quality low-range ohmmeter.
- C. Contractor shall guarantee that the work is done in accordance with drawings and specifications, and that it is free of imperfect materials or defective workmanship. Anything unsatisfactory shall be corrected immediately and at Contractor's expense.

END OF SECTION

SECTION 26 27 26

ELECTRICAL DISTRIBUTION SYSTEM

PART 1 GENERAL

1.1 WIRING METHOD FOR BRANCH CIRCUITS

- A. Outlets in the same general area are circuited together. Circuit numbers are shown as noted in symbol schedule.
- B. In "3 wire" and "4 wire" branch circuits a neutral shall not serve more than one circuit tied to the same phase. The neutral carrying all or any part of the current of any specific load or run shall be contained in the same raceway or enclosure with the phase wire or wires also carrying that current. No split neutrals permitted.
- C. Circuits shall be connected to panels as shown in the panel schedule. Any deviation shall be approved in advance by the engineer.
- D. Under the above requirements and with required color coding system no feeder or branch circuit raceway will contain more than one wire of the same color, except for switch legs and control circuits.
- E. Conductors feeding lighting outlets may be combined in the same raceway with conductors feeding convenience receptacles; but lighting outlets and convenience receptacles shall not be put on the same circuit unless specifically indicated.

PART 2 PRODUCTS

2.1 WIRING DEVICES

- A. Switches considered equivalent are as follows:
 - 1. Single Pole:
 - Hubbell 1221
 - Bryant 4901
 - P & S 20AC1
 - Leviton 1221
 - Eagle 2221
 - 2. Three Way:
 - Hubbell 1223
 - Bryant 4903
 - P & S 20AC3
 - Leviton 1223
 - Eagle 2223
 - 3. Four Way:
 - Hubbell 1224
 - Bryant 4904
 - P & S 20AC4
 - Leviton 1224
 - Eagle 2224
- B. Duplex receptacles considered equivalent are as follows:

- | | | |
|----|--|--|
| 2. | Specification Grade: | Hubbell 5252
Arrow Hart 5252
Bryant 5252
P & S 5262
Leviton 5252
Eagle 5252 |
| 3. | Tamper-Resistant:
(Specification Grade) | Hubbell BRS__20TR
Bryant CBRS____TR
Leviton TBR-__S
P & S TR__W
or equivalent (must be compatible with 2-wire plugs) |
| 4. | Ground Fault Interrupt:
(Specification Grade) | Hubbell GF5262
Arrow Hart GF5242
Bryant GFR52FT
P & S 1591-HG
Leviton 6398-HG |
| 5. | Ground Fault Interrupt
(Weather Resistant/ Tamper Proof)
(Specification Grade) | Hubbell GFR5362__TR
Arrow Hart TWRVGF20__
Bryant GFTR20__
P&S 2095TRWR__
Leviton W7899TR__ |
| 6. | Transient Voltage Surge
Suppressor (TVSS)
20 amp 125 Volt
Blue Duplex, Isolated
Ground | Hubbell 5350S
Bryant SP53-TIGBLU
P&S IG6362-BLSP
EAGLE IG1210V |
| 7. | Isolated Ground: (Orange)
(Specification Grade) | Hubbell IG 5362
Bryant 5362-IG
P & S IG 6300
Leviton 5362-IG |

Manufactures standard numbers listed, contractor to provide variations (Voltage, current, etc) as note in project requirements.

- C. All devices shall have side wired terminals with brass screws and hex head grounding screw.
- D. All devices shall be brown from manufactures standard selection, or as directed by architect, except in areas of renovation shall match existing adjacent devices. Samples will be required prior to acceptance of any proposed equivalents not specifically mentioned above. All like devices shall be by the same manufacturer (i.e.; all switches, all duplex receptacles, etc.).
- E. Unless noted or specified otherwise, device trim plates shall be type 302 stainless steel to suit device. All plates in the job shall be same make and match throughout. No jumbo plates allowed except on case by case approval of engineer.

2.2 FLOOR BOXES

Floor boxes shall be cast iron type with leveling screws and a minimum of (4) 3/4" threaded conduit entries. Floor boxes shall be equivalent to Wiremold "Walkerbox" #880CS series, unless noted differently on plan symbol schedule, one, two or three gang as indicated on drawings. Floor boxes shall be complete with brass carpet flanges and brass cover plates. Floor boxes shall be mounted flush and level in floor. Coordinate exact location and placement with furniture plans prior to rough-in or relocate at no additional cost to owner.

PART 3 EXECUTION

3.1 INSTALLATION

- A. Devices shall be mounted vertically, unless noted otherwise, tightly to boxes, adjusted plumb and level. Devices shall be mounted, with ground in the up position, when mounted vertically, and neutral (common) in the up position when mounted horizontal.
- B. Two or more devices ganged shall be trimmed with gang plate.

END OF SECTION

SECTION 26 29 13

MOTORS, CONTROLLERS, AND EQUIPMENT CONNECTIONS

PART 1 GENERAL

1.1 REQUIREMENTS

- A. Motors, controllers, and other special equipment are provided and installed by other trades. This section specifies typical connections to that equipment.

PART 2 PRODUCTS

2.1 GENERAL

- A. All power wiring shall be by the Electrical Contractor. Control wiring shall be by the Mechanical Contractor or Plumbing Contractor.
- B. Starters and loose disconnect switches shall be furnished by the Contractor furnishing the equipment. All starters and loose disconnect switches shall be installed and wired by the Electrical Contractor. Although furnished by Mechanical or Plumbing Contractors, starters and loose disconnect switches for each piece of equipment are specified in the electrical symbol schedule. Many controllers require overcurrent protection for feeder taps, and these will be specified in the by special notes on the drawings. All miscellaneous devices specified on the drawings by note shall be furnished and installed by the Electrical Contractor.
- C. Equipment shall be furnished with factory installed integral disconnect switches where specified. Electrical Contractor shall wire to line terminals of all integral disconnect switches.
- D. Changes or substitution in equipment resulting in changes in electrical system requirements shall be the responsibility of the contractor furnishing the equipment. Contractor shall bear any additional cost incurred.

2.2 EXHAUST FANS

- A. Exhaust fans are indicated by special symbol on plans. Unless otherwise noted, they will be furnished and set by others but connected by the Electrical Contractor. Exhaust fan starters shall be furnished by the Heating, Ventilating, and Air Conditioning Contractor, and installed and wired by the Electrical Contractor. All fans shall be provided with a controller. Exhaust fans are generally to be furnished with integral factory installed disconnect switch, however Electrical contractor shall provide a local disconnect switch if unit is not provided with one. A switch located at the motor shall be installed as disconnect means at each fan.

2.3 UNIT HEATERS

- A. Unit heater, ventilator, cooler, or similar outlets - designated by special symbol - are located approximately on drawings. Exact location of outlet shall be obtained from Heating, Ventilating, and Air Conditioning Contractor. Unless indicated otherwise, outlet shall be a 4" box fitted with an oversized blank cover with 1/2" center knockout, mounted in wall or ceiling, and fed on circuit shown beside symbol. These outlets shall be located behind or within equipment cabinets where possible and still be accessible. Provide local disconnect switch if one is not provided with unit. Unless specified otherwise herein or on drawings, power connection from outlet to equipment will be by Electrical Contractor. Control wiring will be done by the Mechanical Contractor.

2.4 TROUGHS

- A. Electrical troughs, junction boxes, switches, or breakers for air conditioning, heating, or plumbing equipment are indicated on drawings. Exact locations shall be obtained from Mechanical and Plumbing Contractors but Code clearances shall be maintained. Electrical Contractor shall install power distribution blocks in all troughs. Single, double and three pole distribution blocks, sized for maximum wire input plus five (5) openings minimum capacity. Chase Shawmut catalog number 66000 or 67000 series installed per manufactures instructions. Unless specifically noted otherwise, all power wiring for equipment and controllers beyond these points will be by the Equipment Contractor. Control wiring will be by Mechanical or Plumbing Contractors.

2.5 OTHER

- A. Other equipment connections are generally indicated on drawings by a circled black triangle with a letter suffix. These are then defined in the Symbol Schedule. Where catalog numbers, models, or types, and manufacturer's name are given, these items of equipment shall be furnished and installed by the Electrical Contractor, unless specifically noted otherwise.
- B. Junction box - designated as a circled J. Size of such boxes is generally noted on drawings. Where this is not done, they shall be sized in accord with NEC and purpose evidently intended.
- C. Where unscheduled junction boxes are used by Contractor to facilitate wiring or to comply with limits of elbows and bends, they shall be concealed if at all possible to do so and still be left accessible. If this is impossible, they shall be recessed in walls or ceilings and provided with an oversized cover which shall be painted out to match adjacent surfaces. If it is necessary to mount such boxes exposed, the location shall be approved by the Engineer.
- D. All motor starters and combination type starters specified under this contract shall be equipped with Hand-Off-Automatic switches, red run pilot (run indicating) light, 120 volt control transformer, and two sets of auxiliary contacts. The switch and light shall be located on the unit cover. Combination starters with overcurrent protection shall be thermal magnetic breaker type. Combination starters with integral disconnect switch shall be non-fusible switch type. Starters shall be as manufactured by Square D, Cutler-Hammer, or General Electric Co.
- E. All safety switches shall be "heavy-duty" type, NEMA 1 for indoor and NEMA 3 for outdoor use unless specifically stated otherwise. General duty switches are not acceptable. Safety switches shall be third party listed. Switches shall have defeatable door interlocks that prevent the door from opening when the operating handle is in the "on" position. Switches shall have handles whose positions are easily recognizable in the "on" and "off" position. For safety reasons, padlock shall be provided for switches located in public areas. Switches shall have nontearable, positive, make-quick break mechanisms. Switches shall be properly labeled. See section 260553, Electrical Identification. They shall be fused type unless specifically indicated otherwise on plans. Fused type shall be equipped with Bussmann Fusetron type fuses, or approved equivalent. Switches shall be by Square D, Cutler-Hammer, or General Electric Co.
- F. Control wiring shall not be installed in the same raceways as power wiring.

PART 3 EXECUTION

3.1 THIS SECTION NOT USED

END OF SECTION

SINGLE PRIME CONTRACT WORK

Buncombe County Schools, Erwin High School E Wing Roof Replacement

The undersigned, as bidder, hereby declares that the only person or persons interested in this proposal as principal or principals is or are named herein and that no other persons than herein mentioned has any interest in this proposal or in the contract to be entered into; that this proposal is made without connection with any other person, company or parties making a bid or proposal; and that it is in all respects fair and in good faith without collusion or fraud. The bidder further declares that he has examined the site of the work and informed himself fully in regard to all conditions pertaining to the place where the work is to be done; that he has examined the Specifications for the Work and the Contract Documents relative thereto, and has read all special provisions furnished prior to the opening of bids; that he has satisfied himself relative to the work to be performed.

The bidder proposes and agrees if this proposal is accepted to contract with the Buncombe County Board of Education, hereinafter called the Owner, in the form of contract specified, to furnish all necessary material, equipment, machinery, tools, apparatus, means of transportation and labor necessary to complete the construction of **Buncombe County Schools Erwin High School E Wing Roof Replacement** under a single prime contract.

The work shall be conducted in full and complete accordance with the plans, Specifications, and contract documents to the full and entire satisfaction of the Owner and Cort Architectural Group, PA with a definite understanding that no money will be allowed for extra work, except as set forth in the General Conditions and Contract Documents, for the sum of :

BASE BID: _____ Dollars (\$ _____)

Roofing Subcontractor: _____ Lic _____

Should the Owner elect to accept any of the alternates as shown on the Drawings or described in the Specifications, the amount written below shall be the amount to be "added to" or "deducted from" the Base Bid. The Bidders shall indicate whether the amount quoted for each Alternate is to be added to or deducted from the Base Bid.

Alternate No. 1: In lieu of tapered rigid roof insulation included in the base bid; provide cellular lightweight insulating concrete as specified in Section 03521.

_____ Dollars (\$ _____)

Alternate No. 2: Under Base Bid ductwork materials may be reused. Under Alternate No. 2, all ductwork above roof shall be new per specifications.

_____ Dollars (\$ _____)

SINGLE PRIME CONTRACT WORK

Buncombe County Schools, Erwin High School E Wing Roof Replacement

The bidder proposes and agrees to commence Work under his contract on a date to be specified in a written order from the Architect and to fully complete all Work within the time limit specified.

The undersigned has enclosed in an envelope separate from this proposal a cashier's check of certified check in an amount equal to not less than five percent (5%) of the maximum amount of potential Contract Award, or cash or Bid Bond in an equal amount. The undersigned further agrees that in case of failure on his part to execute the said contract and the bond within ten (10) consecutive calendar days after written notice being given of the award of contract, the check, cash or bid bond accompanying his bid shall be paid into the funds of the Owner's account set aside for this project, as liquidated damages for such failure; otherwise the certified check, cash or bid bond accompanying this proposal shall be returned to the undersigned.

The undersigned has enclosed in an envelope separate from this Proposal a cashier's check, or certified check, or cash, or an executed bid bond in the amount of

_____ Dollars (\$_____)

made payable to the BUNCOMBE COUNTY BOARD OF EDUCATION, same being not less than five percent (5%) of the maximum amount of potential Contract Award.

Respectfully submitted this _____ day of _____, 20____.

(Name of Firm or Corp. Making Bid)

WITNESS:

By: _____

(Proprietorship or Partnership)

TITLE: _____
(Owner, Partner, Corp. President or Vice President Only)

ATTEST:

ADDRESS: _____

BY _____

LICENSE NO. _____

TITLE _____
(Corp. Sec. or Assist. Sec. Only)

(Corporate Seal)

SINGLE PRIME CONTRACT WORK

Buncombe County Schools, Erwin High School E Wing Roof Replacement

Addenda Received and Used in Computing Bids (Initial as appropriate)

Addendum No. _____ Dated _____ Received _____

Addendum No. _____ Dated _____ Received _____

Addendum No. _____ Dated _____ Received _____

State of North Carolina AFFIDAVIT A – Listing of Good Faith Efforts

County of _____

(Name of Bidder)

Affidavit of _____

I have made a good faith effort to comply under the following areas checked:

Bidders must earn at least 50 points from the good faith efforts listed for their bid to be considered responsive. (1 NC Administrative Code 30 I.0101)

- 1 – (10 pts) Contacted minority businesses that reasonably could have been expected to submit a quote and that were known to the contractor, or available on State or local government maintained lists, at least 10 days before the bid date and notified them of the nature and scope of the work to be performed.
- 2 --(10 pts) Made the construction plans, specifications and requirements available for review by prospective minority businesses, or providing these documents to them at least 10 days before the bids are due.
- 3 – (15 pts) Broken down or combined elements of work into economically feasible units to facilitate minority participation.
- 4 – (10 pts) Worked with minority trade, community, or contractor organizations identified by the Office of Historically Underutilized Businesses and included in the bid documents that provide assistance in recruitment of minority businesses.
- 5 – (10 pts) Attended prebid meetings scheduled by the public owner.
- 6 – (20 pts) Provided assistance in getting required bonding or insurance or provided alternatives to bonding or insurance for subcontractors.
- 7 – (15 pts) Negotiated in good faith with interested minority businesses and did not reject them as unqualified without sound reasons based on their capabilities. Any rejection of a minority business based on lack of qualification should have the reasons documented in writing.
- 8 – (25 pts) Provided assistance to an otherwise qualified minority business in need of equipment, loan capital, lines of credit, or joint pay agreements to secure loans, supplies, or letters of credit, including waiving credit that is ordinarily required. Assisted minority businesses in obtaining the same unit pricing with the bidder's suppliers in order to help minority businesses in establishing credit.
- 9 – (20 pts) Negotiated joint venture and partnership arrangements with minority businesses in order to increase opportunities for minority business participation on a public construction or repair project when possible.
- 10 - (20 pts) Provided quick pay agreements and policies to enable minority contractors and suppliers to meet cash-flow demands.

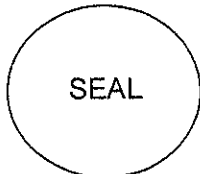
The undersigned, if apparent low bidder, will enter into a formal agreement with the firms listed in the Identification of Minority Business Participation schedule conditional upon scope of contract to be executed with the Owner. Substitution of contractors must be in accordance with GS143-128.2(d) Failure to abide by this statutory provision will constitute a breach of the contract.

The undersigned hereby certifies that he or she has read the terms of the minority business commitment and is authorized to bind the bidder to the commitment herein set forth.

Date: _____ Name of Authorized Officer: _____

Signature: _____

Title: _____



State of _____, County of _____

Subscribed and sworn to before me this _____ day of _____ 20____

Notary Public _____

My commission expires _____

State of North Carolina --AFFIDAVIT B-- Intent to Perform Contract with Own Workforce.

County of _____

Affidavit of _____

(Name of Bidder)

I hereby certify that it is our intent to perform 100% of the work required for the _____

_____ contract.

(Name of Project)

In making this certification, the Bidder states that the Bidder does not customarily subcontract elements of this type project, and normally performs and has the capability to perform and will perform all elements of the work on this project with his/her own current work forces; and

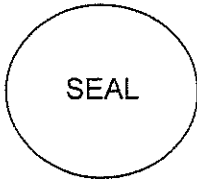
The Bidder agrees to provide any additional information or documentation requested by the owner in support of the above statement.

The undersigned hereby certifies that he or she has read this certification and is authorized to bind the Bidder to the commitments herein contained.

Date: _____ Name of Authorized Officer: _____

Signature: _____

Title: _____



State of _____, County of _____

Subscribed and sworn to before me this _____ day of _____ 20__

Notary Public _____

My commission expires _____

State of North Carolina - AFFIDAVIT C - Portion of the Work to be Performed by Minority Firms

County of _____

(Note this form is to be submitted only by the apparent lowest responsible, responsive bidder.)

If the portion of the work to be executed by minority businesses as defined in GS143-128.2(g) is equal to or greater than 10% of the bidders total contract price, then the bidder must complete this affidavit. This affidavit shall be provided by the apparent lowest responsible, responsive bidder within **72 hours** after notification of being low bidder.

Affidavit of _____ I do hereby certify that on the
(Name of Bidder)

_____ I do hereby certify that on the
(Project Name)
 Project ID# _____ Amount of Bid \$ _____

I will expend a minimum of _____% of the total dollar amount of the contract with minority business enterprises. Minority businesses will be employed as construction subcontractors, vendors, suppliers or providers of professional services. Such work will be subcontracted to the following firms listed below. Attach additional sheets if required

Name and Phone Number	*Minority Category	Work description	Dollar Value

*Minority categories: Black, African American (B), Hispanic (H), Asian American (A) American Indian (I), Female (F) Socially and Economically Disadvantaged (D)

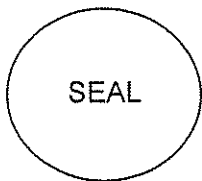
Pursuant to GS143-128.2(d), the undersigned will enter into a formal agreement with Minority Firms for work listed in this schedule conditional upon execution of a contract with the Owner. Failure to fulfill this commitment may constitute a breach of the contract.

The undersigned hereby certifies that he or she has read the terms of this commitment and is authorized to bind the bidder to the commitment herein set forth.

Date: _____ Name of Authorized Officer: _____

Signature: _____

Title: _____



State of _____, County of _____

Subscribed and sworn to before me this _____ day of _____ 20____

Notary Public _____

My commission expires _____

State of North Carolina AFFIDAVIT D – Good Faith Efforts

County of _____

(Note this form is to be submitted only by the apparent lowest responsible, responsive bidder.)

If the goal of 10% participation by minority business **is not** achieved, the Bidder shall provide the following documentation to the Owner of his good faith efforts:

Affidavit of _____ I do hereby certify that on the
(Name of Bidder)

_____ I do hereby certify that on the
(Project Name)
Project ID# _____ Amount of Bid \$ _____

I will expend a minimum of _____% of the total dollar amount of the contract with minority business enterprises. Minority businesses will be employed as construction subcontractors, vendors, suppliers or providers of professional services. Such work will be subcontracted to the following firms listed below. (Attach additional sheets if required)

Name and Phone Number	*Minority Category	Work description	Dollar Value

*Minority categories: Black, African American (B), Hispanic (H), Asian American (A) American Indian (I), Female (F) Socially and Economically Disadvantaged (D)

Examples of documentation that may be required to demonstrate the Bidder's good faith efforts to meet the goals set forth in these provisions include, but are not necessarily limited to, the following:

- A. Copies of solicitations for quotes to at least three (3) minority business firms from the source list provided by the State for each subcontract to be let under this contract (if 3 or more firms are shown on the source list). Each solicitation shall contain a specific description of the work to be subcontracted, location where bid documents can be reviewed, representative of the Prime Bidder to contact, and location, date and time when quotes must be received.
- B. Copies of quotes or responses received from each firm responding to the solicitation.
- C. A telephone log of follow-up calls to each firm sent a solicitation.
- D. For subcontracts where a minority business firm is not considered the lowest responsible sub-bidder, copies of quotes received from all firms submitting quotes for that particular subcontract.
- E. Documentation of any contacts or correspondence to minority business, community, or contractor organizations in an attempt to meet the goal.
- F. Copy of pre-bid roster.
- G. Letter documenting efforts to provide assistance in obtaining required bonding or insurance for minority business.
- H. Letter detailing reasons for rejection of minority business due to lack of qualification.
- I. Letter documenting proposed assistance offered to minority business in need of equipment, loan capital, lines of credit, or joint pay agreements to secure loans, supplies, or letter of credit, including waiving credit that is ordinarily required.

Failure to provide the documentation as listed in these provisions may result in rejection of the bid and award to the next lowest responsible and responsive bidder.

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

BID BOND

(ALL BIDDERS ARE ENCOURAGED TO USE THIS FORM)

Date of Execution of
this Bond

Name and Address of
Principal (Bidder)

Name and Address
of Surety

Name and Address of
Contracting Body

THE BUNCOMBE COUNTY BOARD OF EDUCATION,
a body corporate of the State of North Carolina,
175 Bingham Road, Asheville, North Carolina 28806.

Amount of Bond

Bid and Proposal Dated:

Project Name:

KNOW ALL MEN BY THESE PRESENTS, that we, the PRINCIPAL above named and SURETY above named who is duly licensed to act as SURETY in the State of North Carolina, are held and firmly bound unto THE BUNCOMBE COUNTY BOARD OF EDUCATION, a body corporate of the State of North Carolina, as Obligee, in the penal sum of five percent (5%) of the amount bid in the bid and proposal described above, in lawful money of the United States of America, for the payment of which well and truly to be made, we bind ourselves, our heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

NOW, THEREFORE, THE CONDITION OF THIS OBLIGATION is such, that if the PRINCIPAL shall be awarded the contract for which the bid and proposal above described is submitted and shall execute the contract, give bond for the faithful performance of the contract, and give bond for the payment of all persons supplying labor and materials in the prosecution of the work provided for in said contract, within ten (10) days after the award of the same to the PRINCIPAL above named, then this obligation shall be null and void; BUT if the PRINCIPAL above named fails to so execute such contract and give performance bond and payment bond as required by Section 129 of Chapter 143 of the General Statutes of North Carolina, as amended, and Article 3 of Chapter 44-A of the General Statutes of North Carolina, as amended, the Surety shall upon demand, forthwith pay the Obligee the amount of this bond set forth above.

IN WITNESS WHEREOF, the Principal above named and the Surety above named have executed this instrument under their several seals on the date set forth above.

<p>WITNESS:</p> <p>_____</p> <p>(Proprietorship or Partnership)</p> <p>ATTEST: (Corporation)</p> <p>By: _____ (SEAL)</p> <p>Title: _____</p> <p>(Corporation Secretary or Assistant Secretary Only)</p>	<p>Principal (Name of Individual, individual and trade name, partnership, corporation, or joint venture)</p> <p>By: _____ (SEAL)</p> <p>Title: _____</p> <p>(Owner, partner, office held in corporation, joint venture)</p> <p>(Corporate Seal of Principal)</p>
<p>WITNESS:</p> <p>_____</p> <p>COUNTERSIGNED:</p> <p>_____</p> <p>N.C. Licensed Resident Agent</p>	<p>Surety (Name of Surety Company)</p> <p>By: _____</p> <p>Title: _____ Attorney in Fact</p> <p>(Corporate Seal of Surety)</p> <p>_____</p> <p>(Address of Attorney in Fact)</p>

STATE OF NORTH CAROLINA
COUNTY OF BUNCOMBE

AGREEMENT

THIS AGREEMENT made and entered into this ___ day of _____ by and between THE BUNCOMBE COUNTY BOARD OF EDUCATION, hereafter called the Board, and _____ hereafter called the Contractor:

WITNESSETH, that the Board and the Contractor contract and agree as follows:

1. Scope of Work: The Contractor shall furnish all material, equipment, labor, services and supervision necessary to complete the work required by the contract documents for the project entitled: _____

2. The contract documents consist of this Agreement and the following enumerated documents and are fully incorporated herein as if fully set forth herein:

- | | (If applicable) |
|---|-----------------|
| a) Notice and Invitation to Bidders | _____ x _____ |
| b) Bonds/Insurance
(see specifications for requirements) | _____ x _____ |
| c) General Conditions | _____ x _____ |
| d) Specifications
Dated: _____ | _____ x _____ |
| e) Drawings
Dated: _____ | _____ x _____ |
| f) Minority Business Guidelines | _____ x _____ |
| g) Form of Proposal/Bid Sheet | _____ x _____ |
| h) Bid Bond/Bid Security | _____ x _____ |
| i) Performance Bond and Power of Attorney | _____ x _____ |
| j) Payment Bond and Power of Attorney | _____ x _____ |
| k) Minority Business Enterprise Forms | _____ x _____ |

As follows:
Affidavit A, B _____
ID of Minority BP _____

- l) Addendum No. _____ Dated _____
- Addendum No. _____ Dated _____
- Addendum No. _____ Dated _____
- Addendum No. _____ Dated _____
- Addendum No. _____ Dated _____

3. The work required by the contract documents shall be commenced by the Contractor on a date to be specified in a written Notice to Proceed from the Board and all work required by the contract documents shall be fully completed within time allowed as established in the Request for Formal Proposals.

4. The Board shall pay the Contractor for the performance of the work the sum of: _____ (\$ _____) the amount specified in their proposal offered on _____ as provided in Paragraph 5 of this Agreement.

5. Not later than the first day of each calendar month the Contractor shall submit to the Board a request for payment for work done during the previous calendar month. Each monthly request for payment will be submitted on AIA Document G702, Application and Certificate for Payment document. The request shall show the value of the work done and materials delivered to each site during the period of time for which the request is made. On or before the 15th day of each calendar month, the Board shall make partial payment to the Contractor on the basis of that portion of the request for payment approved by the Board, less five percent (5%) of the amount of such request retained. The amount of five percent (5%) retained from each approved request for payment shall be retained by the Board until all work has been completed and performed strictly in accordance with the Contract Documents and until such work has been accepted by the Board, at which time such retained sums shall be paid to the Contractor within 30 days after receipt of required final contract documents.

6. The Contractor shall be responsible for the construction site(s) during the performance of the work and shall be responsible for any and all damages to persons and property during the performance of the work and shall further provide all necessary safety measures and shall fully comply with all federal, state and local laws, building codes, rules and regulations to prevent accidents or injury to persons or property on or about the location of the work, it being expressly understood by the Contractor that school will be in session during the performance of portions of the work and that pupils, teachers other employees of the Board and the public will be on, about and near the construction site.

7. This Agreement shall be modified only by the execution by the Contractor and the Board of written change order or change orders.

IN WITNESS WHEREOF, the Contractor and the Board have executed this agreement in triplicate originals, the day and year first above written.

WITNESS:

CONTRACTOR:

(Proprietorship of Partnership)

BY: _____

ATTEST: (Corporation)

TITLE: _____
(Owner, Partner, or Corp. Pres. or Vice-Pres. only)

BY: _____

TITLE: _____
(Corp. Sec. or Ass't. Sec. only)

(Corporate Seal)

BUNCOMBE COUNTY BOARD OF EDUCATION

BY: _____

CHAIRMAN

ATTEST:

SUPERINTENDENT /EX-OFFICIO SECRETARY

(Corporate Seal)

This instrument has been preaudited
in the manner required by the School
Budget and Fiscal Control Act.

School Finance Officer

PERFORMANCE BOND

Date of Execution of this Bond _____

Name and Address of Principal (Contractor) _____

Name and Address of Surety _____

Name and Address of Contracting Body
THE BUNCOMBE COUNTY BOARD OF EDUCATION,
a body corporate of the State of North Carolina,
175 Bingham Road, Asheville, North Carolina 28806.

Amount of Bond _____

Contract That certain contract by and between the Principal and the Contracting Body above named dated _____ for the project entitled _____

KNOW ALL MEN BY THESE PRESENTS, that we, the PRINCIPAL and SURETY above named, are held and firmly bound unto the above-named Contracting Body, hereinafter called the Contracting Body, in the penal sum of the amount stated above for the payment of which sum well and truly to be made, we bind ourselves, our heirs, executors, administrators, and successors, jointly and severally, firmly by these presents.

THE CONDITION OF THIS OBLIGATION IS SUCH, that whereas the Principal entered into a certain contract with the Contracting Body, identified as shown above and hereto attached;

NOW THEREFORE, if the Principal shall well and truly perform and fulfill all the undertakings, covenants, terms, conditions, and agreements of said contract during the original term of said contract and any extensions thereof that may be granted by the Contracting Body, with or without notice to the Surety, and during the life of any guaranty required under the contract, and shall also well and truly perform and fulfill all the undertakings, covenants, terms, conditions, and agreements of any and all duly authorized modifications of the contract that may hereafter be made, notice of which modifications to the Surety being hereby waived, then, this obligation to be void; otherwise, to remain in full force and virtue.

PERFORMANCE BOND: (Continued)

THIS PERFORMANCE BOND is made and given pursuant to the requirements and provisions of Section 129 of Chapter 143 of the General Statutes of North Carolina and pursuant to Article 3 of Chapter 44-A of the General Statutes of North Carolina, and each and every provision set forth and contained in Section 129 of Chapter 143 and in Article 3 of Chapter 44-A of the General Statutes of North Carolina is incorporated herein, made a part hereof, and deemed to be conclusively written into this Bond.

IN WITNESS WHEREOF, the above-bounden parties have executed this instrument under their several seals as of the date indicated above, the name and corporate seal of each corporate party being hereto affixed and these presents duly signed by its undersigned and representative, pursuant to authority of its governing body.

WITNESS:

(Proprietorship or Partnership)

Principal (Name of individual, individual and trade name, partnership, corporation, or joint venture)

BY _____ (SEAL)

TITLE _____
(Owner, Partner, Office held in corporation, joint venture)

ATTEST: (Corporation)

(Corporate Seal of Principal)

BY _____

TITLE _____
(Corporation Secretary or Assistant Secretary Only)

WITNESS:

Surety (Name of Surety Company)

BY _____

TITLE _____ Attorney in Fact

(Corporate Seal of Surety)

COUNTERSIGNED:

(Address of Attorney in Fact)

N.C. Licensed Resident Agent

PAYMENT BOND

Date of Execution of
this Bond

Name and Address of
Principal (Contractor)

Name and Address
of Surety

Name and Address of
Contracting Body

THE BUNCOMBE COUNTY BOARD OF EDUCATION,
a body corporate of the State of North Carolina,
175 Bingham Road, Asheville, North Carolina 28806.

Amount of Bond

Contract

That certain contract by and between the Principal and the Contracting
Body above named, dated _____ for the
project entitled _____

KNOW ALL MEN BY THESE PRESENTS, that we, the PRINCIPAL and SURETY above named, are held and firmly bound unto the above-named Contracting Body, hereinafter called the Contracting Body, in the penal sum of the amount stated above for the payment of which sum well and truly to be made, we bind ourselves, our heirs, executors, administrators, and successors, jointly and severally, firmly by these presents.

THE CONDITION OF THIS OBLIGATION IS SUCH, that whereas the Principal entered into a certain contract with the Contracting Body, identified and shown above and hereto attached;

NOW THEREFORE, if the Principal shall promptly make payment to all persons supplying labor and material in the prosecution of the work provided for in said contract, and any and all duly authorized modifications and extensions of time of said contract may be hereafter be made, notice of which modification and extension of item to the Surety being hereby waived, then, this obligation to be void; otherwise, to remain in full force and virtue.

THIS PAYMENT BOND is made and given pursuant to the requirements and provisions of Section 129 of Chapter 143 of the General Statutes of North Carolina and pursuant to Article 3 of Chapter 44-A of the General Statutes of North Carolina, and each and every provision set forth and contained in Section 129 of Chapter 143 and in Article 3 of Chapter 44-A of the General Statutes of North Carolina is incorporated herein, made a part hereof, and deemed to be conclusively written into this Bond.

IN WITNESS WHEREOF, the above-bounden parties have executed this instrument under their several seals of the date indicated above, the name and corporate seal of each corporate party being hereto affixed and these presents duly signed by its undersigned representative pursuant to authority of its governing body.

<p>WITNESS:</p> <p>_____</p> <p>(Proprietorship or Partnership)</p> <p>ATTEST: (Corporation)</p> <p>By: _____ (SEAL)</p> <p>Title: _____</p> <p>(Corporation Secretary or Assistant Secretary Only)</p>	<p>Principal (Name of Individual, individual and trade name, partnership, corporation, or joint venture)</p> <p>By: _____ (SEAL)</p> <p>Title: _____</p> <p>(Owner, partner, office held in corporation, joint venture)</p> <p>(Corporate Seal of Principal)</p>
<p>WITNESS:</p> <p>_____</p> <p>COUNTERSIGNED:</p> <p>_____</p> <p>N.C. Licensed Resident Agent</p>	<p>Surety (Name of Surety Company)</p> <p>By: _____</p> <p>Title: _____ Attorney in Fact</p> <p>(Corporate Seal of Surety)</p> <p>_____</p> <p>(Address of Attorney in Fact)</p>

FINAL CERTIFICATE AND RELEASE

CONTRACTOR: _____

OWNER: _____

REFERENCE: Contract entered into the _____ day of _____, 2010 between the _____ hereinafter called the Board, and _____ hereinafter called the Contractor, for the project entitled _____

KNOW ALL MEN BY THESE PRESENTS:

1. The Contractor hereby certifies that there is due and payable under the contract and all change orders and modifications thereof the sum of _____ as final payment.
2. The Contractor further certifies that there are no outstanding or unsettled claims or items in addition to the amount set forth in paragraph 1 hereof which it claims are just and due and owing by the Board to the Contractor.
3. The Contractor further certifies that all work required under the contract, including work required under all change orders and modifications, has been performed in accordance with the terms thereof, and that there are no claims of laborers, materialmen, mechanics, subcontractors or sub-subcontractors for unpaid monies or wages arising out of the performance of this contract.
4. Except for the amount stated in paragraph 1 hereof, the Contractor has received from the Board all sums of money payable to the Contractor under or pursuant to the aforementioned contract, change orders, modifications, change directives, claims, demands, or otherwise.
5. That in consideration of the payment of the amount stated in paragraph 1 hereof, the Contractor does hereby release the Board and the Board's past, present and future members, officers, employees and agents, and their respective assigns, successors, heirs and representatives from any and all claims, demands, rights, claims of lien, damages, suits, and causes of action, both legal and equitable, which the Contractor has, might now have, or that subsequently may accrue to it, arising under, growing out of, or in any wise connected with the Contract above referred to and the construction project referred to above.

IN WITNESS WHEREOF, the Contractor has caused this Final Certificate and Release to be executed by its duly authorized officers and its seal to be hereunto affixed, all by authority duly given, this _____ day of _____, 2010. It is the act and intent of the Contractor that this document be executed under seal.

BY _____

ATTEST:

STATE OF _____

COUNTY OF _____

I, a Notary Public of the State of _____, County of _____, do hereby certify that _____ personally appeared before me this day and, being first duly sworn to oath, deposed and said that he is the _____ of _____, and that he has read the foregoing Final Certificate and Release and that the matters and things stated therein are, to the best of his knowledge and belief, true and that by authority duly given and as the act of _____,

(Company or Corporation)

the foregoing instrument was signed in its name by him as its _____ President, sealed with its corporate seal, and accepted by its _____ Secretary.

WITNESS my hand and Notarial Seal, this _____ day of _____, 2010.

My Commission Expires:

NOTARY PUBLIC

DUPLICATE FORMS

