

**BOILER REPLACEMENT AT  
SCHOOL OF ENGINEERING  
FOR  
ALABAMA A&M UNIVERSITY  
Normal, Alabama**



MIMS ENGINEERING, INC., 112B Southside Square, Huntsville, AL 35801  
May 2, 2018

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**PROJECT:**

Boiler Replacement at School of Engineering  
for Alabama A&M University  
4900 Meridian Street  
Normal, AL 35762

**RELEASE DATE:**

May 2, 2018

**B. C. NUMBER:**

**PSCA NUMBER:**

**OWNERS:**

Alabama Public School and College Authority  
Alabama Building Commission, RSA Building  
770 Washington Avenue, Suite 444  
Montgomery, AL 36310 and  
Alabama A&M University  
4900 Meridian Street  
Normal, AL 35762

**ARCHITECT:**

Mims Engineering, Inc.  
112B South Side Square  
Huntsville, AL 35801  
Telephone 256-881-4126  
Fax 256-880-6743

**STRUCTURAL ENGINEER:**

**MECHANICAL ENGINEER:**

**ELECTRICAL ENGINEER:**

**END OF SECTION**

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#### **PART 1 GENERAL**

##### **1.01 DOCUMENTS**

- A. Advertisement for Bids - ABC Form C1, dated August 2001.
- B. Instructions to Bidders - ABC Form C2, dated August 2001.
- C. Proposal Form - ABC Form C3, dated August 2001.
- D. Accounting of Sales Tax Form - ABC 3A, dated October 2013.
- E. Form of Bid Bond - ABC Form C-4, dated August 2001.

##### **1.02 DOCUMENT AVAILABILITY**

- A. A copy of the documents and forms noted above is attached hereto, as provided by the Alabama Building Commission.
- B. Additional copies may be obtained from the office of the Alabama Building Commission, RSA Plaza, 770 Washington Avenue, Suite 444, Montgomery, Alabama 36130, phone (334) 242-4082.

#### **PART 2 PRODUCTS - NOT USED**

#### **PART 3 EXECUTION - NOT USED**

### **END OF SECTION**

ADVERTISEMENT FOR BIDS

Sealed proposals will be received by Alabama A&M University  
(Owner's legal title)  
at the office of **Alabama A&M University in Normal, AL** at the office of Timothy Thornton, Alabama A&M University, Department of Purchasing – Room 305 Patton Hall 4900 Meridian Street Normal, Alabama 35762

(Name and address of Owner's authorized representative)  
until 2:00 p.m. CST May TBD, 2018  
(Hours) (Month), (Date), (Year)

**Boiler Replacement at School of Engineering for Alabama A&M University**

at which time and place they will be publicly opened and read.

A cashier's check or bid bond payable to Alabama A&M University  
(Owner's legal title)  
in an amount not less than five (5) percent of the amount of the bid, but in no event more than \$10,000, must accompany the bidder's proposal. Performance and Payment Bonds and evidence of insurance required in the bid documents will be required at the signing of the Contract.

Drawings and specifications will be available for electronic distribution by 9:00 a.m. on May TBD, 2018. Please email: [mlee@mimseng.com](mailto:mlee@mimseng.com) be added to the email distribution list. Hard copies may be examined at the office of Mims Engineering Inc., 112-B South Side Square, Huntsville, AL 35801; Phone: 256-881-4126; Fax: 256-880-6743.

Bid Documents may be obtained from the Architect (Engineer). The Contractor will be responsible for cost of printing, reproduction, handling, and distribution.

A Pre-Bid Conference will be held at 2:00 PM on May TBD, 2018 at the University Services Building, department of Facilities and Administrative Services, Facilities Conference Room located at 453 Buchanan Way, Normal, AL 35762, Telephone 256-372-5829. Site visit to follow.

Bids must be submitted on proposal forms furnished by the Architect (Engineer) or copies thereof. All bidders bidding in amounts exceeding that established by the State Licensing Board for General Contractors must be licensed under the provisions of Title 34, Chapter 8, Code of Alabama, 1975, and must show evidence of license before bidding or bid will not be received or considered by the Architect (Engineer); the bidder shall show such evidence by clearly displaying his or her current license number on the outside of the sealed envelope in which the proposal is delivered. The Owner reserves the right to reject any or all proposals and to waive technical errors if, in the Owner's judgment, the best interests of the Owner will thereby be promoted.

Alabama A&M University  
(Awarding Authority)

Mims Engineering, Inc.  
(Architect)



# INSTRUCTIONS TO BIDDERS

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### 1. BID DOCUMENTS

The Bid Documents consist of the Advertisement for Bids, these Instructions to Bidders, any modifications of or supplements to these Instructions to Bidders, the Proposal Form, and the proposed Contract Documents. The proposed Contract Documents consist of the Construction Contract, the Performance Bond and Payment Bond, the Conditions of the Contract (General, Supplemental, and other Conditions), Drawings, Specifications and all addenda issued prior to execution of the Construction Contract. Bid Documents may be obtained or examined as set forth in the Advertisement for Bids.

### 2. GENERAL CONTRACTOR'S STATE LICENSING REQUIREMENTS:

When the amount bid for a contract exceeds \$50,000, the bidder must be licensed by the State Licensing Board for General Contractors and must show the Architect evidence of license before bidding or the bid will not be received by the Architect or considered by the Awarding Authority. A bid exceeding the bid limit stipulated in the bidder's license, or which is for work outside of the type or types of work stipulated in the bidder's license, will not be considered. In case of a joint venture of two or more contractors, the amount of the bid shall be within the maximum bid limitation as set by the State Licensing Board for General Contractors of the combined limitations of the partners to the joint venture.

### 3. QUALIFICATIONS of BIDDERS and PREQUALIFICATION PROCEDURES:

- a. Any special qualifications required of general contractors, subcontractors, material suppliers, or fabricators are set forth in the Bid Documents.
- b. The Awarding Authority may have elected to prequalify bidders. Parties interested in bidding for this contract are directed to the Advertisement for Bids and Supplemental Instructions to Bidders to determine whether bidders must be prequalified and how they may obtain copies of the Awarding Authority's published prequalification procedures and criteria.
- c. Release of Bid Documents by the Architect to a prospective bidder will not constitute any determination by the Awarding Authority or Architect that the bidder has been found to be qualified, prequalified, or responsible.

**4. PREFERENCE to RESIDENT CONTRACTORS:**

(If this project is federally funded in whole or in part, this Article shall not apply.)

a. In awarding the Contract, preference will be given to Alabama resident contractors and a nonresident bidder domiciled in a state having laws granting preference to local contractors shall be awarded the Contract only on the same basis as the nonresident bidder's state awards contracts to Alabama contractors bidding under similar circumstances.

b. A nonresident bidder is a contractor which is neither organized and existing under the laws of the State of Alabama, nor maintains its principal place of business in the State of Alabama. A nonresident contractor which has maintained a permanent office within the State of Alabama for at least five continuous years shall not thereafter be deemed to be a non-resident contractor so long as the contractor continues to maintain a branch office within Alabama.

**5. EXAMINATION of BID DOCUMENTS and the SITE of the WORK:**

Before submitting a bid for the Work, the bidders shall carefully examine the Bid Documents, visit the site, and satisfy themselves as to the nature and location of the Work, and the general and local conditions, including weather, the general character of the site or building, the character and extent of existing work within or adjacent to the site and any other work being performed thereon at the time of submission of their bids. They shall obtain full knowledge as to transportation, disposal, handling, and storage of materials, availability of water, electric power, and all other facilities in the area which will have a bearing on the performance of the Work for which they submit their bids. The submission of a bid shall constitute a representation by the bidder that the bidder has made such examination and visit and has judged for and satisfied himself or herself as to conditions to be encountered regarding the character, difficulties, quality, and quantities of work to be performed and the material and equipment to be furnished, and as to the contract requirements involved.

**6. EXPLANATIONS and INTERPRETATIONS:**

a. Should any bidder observe any ambiguity, discrepancy, omission, or error in the drawings and specifications, or in any other bid document, or be in doubt as to the intention and meaning of these documents, the bidder should immediately report such to the Architect and request clarification.

b. Clarification will be made only by written Addenda sent to all prospective bidders. Neither the Architect nor the Awarding Authority will be responsible in any manner for verbal answers or instructions regarding intent or meaning of the Bid Documents.

c. In the case of inconsistency between drawings and specifications or within either document, a bidder will be deemed to have included in its bid the better quality or greater quantity of the work involved unless the bidder asked for and obtained the Architect's written clarification of the requirements before submission of a bid.

## 7. SUBSTITUTIONS

a. The identification of any product, material, system, item of equipment, or service in the Bid Documents by reference to a trade name, manufacturer's name, model number, etc. (hereinafter referred to as "source"), is intended to establish a required standard of performance, design, and quality and is not intended to limit competition unless the provisions of paragraph "d" below apply.

b. When the Bid Documents identify only one or two sources, or three or more sources followed by "or approved equal" or similar wording, the bidder's proposal may be based on a source not identified but considered by the bidder to be equal to the standard of performance, design and quality as specified; however, such substitutions must ultimately be approved by the Architect. If the bidder elects to bid on a substitution without "Pre-bid Approval" as described below, then it will be understood that proof of compliance with specified requirements is the exclusive responsibility of the bidder.

c. When the Bid Documents identify three or more sources and the list of sources is not followed by "or approved equal" or similar wording, the bidder's proposal shall be based upon one of the identified sources, unless the bidder obtains "Pre-bid Approval" of another source as described below. Under these conditions it will be expressly understood that no product, material, system, item of equipment, or service that is not identified in the Bid Documents or granted "Pre-Bid Approval" will be incorporated into the Work unless such substitution is authorized and agreed upon through a Contract Change Order.

d. If the Bid Documents identify only one source and expressly provide that it is an approved sole source for the product, material, system, item of equipment, or service, the bidder's proposal must be based upon the identified sole source.

e. **Procedures for "Pre-bid Approval".** If it is desired that a product, material, system, piece of equipment, or service from a source different from those sources identified in the Bid Documents be approved as an acceptable source, application for the approval of such source must reach the hands of the Architect at least ten days prior to the date set for the opening of bids. At the Architect's discretion, this ten day provision may be waived. The application for approval of a proposed source must be accompanied by technical data which the applicant desires to submit in support of the application. The Architect will give consideration to reports from reputable independent testing laboratories, verified experience records showing the reputation of the proposed source with previous users, evidence of reputation of the source for prompt delivery, evidence of reputation of the source for efficiency in servicing its products, or any other pertinent written information. The application to the Architect for approval of a proposed source must be accompanied by a schedule setting forth in which respects the materials or equipment submitted for consideration differ from the materials or equipment designated in the Bid Documents. The burden of proof of the merit of the proposed substitution is upon the proposer. To be approved, a proposed source must also meet or exceed all express requirements of the Bid Documents. Approval, if granted, shall not be effective until published by the Architect in an addendum to the Bid Documents.

## 8. PREPARATION and DELIVERY of BIDS:

### a. Proposal Form:

- (1) Bids must be submitted on the Proposal Forms as contained in the Bid Documents; only one copy is required to be submitted. All sealed bids containing two copies of the Proposal Forms, two copies of the Accounting of Sales Tax form, two copies of the Bid Bond, and one copy of Supplement A - List of Subcontractors (Section 00 43 36), Supplement B - List of Unit Prices (Section 00 43 22), and Supplement C - List of Alternates (Section 00 43 23) will be received by 2:00 p.m. CST on February 6, 2014. Upon receipt of these documents the bids will be publicly opened and read aloud. No changes to the base bid will be allowed after 2:00 p.m.
- (2) All information requested of the bidder on the Proposal Form must be filled in. The form must be completed by typewriter or hand-printed in ink.
- (3) Identification of Bidder: On the first page of the Proposal Form the bidder must be fully identified by completing the spaces provided for:
  - (a) the legal name of the bidder,
  - (b) the state under which laws the bidder's business is organized and existing,
  - (c) the city (and state) in which the bidder has its principal offices,
  - (d) the bidder's business organization, i.e., corporation, partnership, or individual (to be indicated by marking the applicable box and writing in the type of organization if it is not one of those listed), and
  - (e) the partners or officers of the bidder's organization, if the bidder is other than an individual. If the space provided on the Proposal Form is not adequate for this listing, the bidder may insert "See Attachment" in this space and provide the listing on an attachment to the Proposal Form.
- (4) Where indicated by the format of the Proposal Form, the bidder must specify lump sum prices in both words and figures. In case of discrepancy between the prices shown in words and in figures, the words will govern.
- (5) All bid items requested in the Proposal Form, including alternate bid prices and unit prices for separate items of the Work, must be bid. If a gross sum of bid items is requested in the Proposal Form, the gross sum shall be provided by the bidder.
- (6) In the space provided in the Proposal Form under "Bidder's Alabama License", the bidder must insert his or her current general contractor's state license number, current bid limit, and type(s) of work for which bidder is licensed.
- (7) The Proposal Form shall be properly signed by the bidder. If the bidder is:
  - (a) **an individual**, that individual or his or her "authorized representative" must sign the Proposal Form;
  - (b) **a partnership**, the Proposal Form must be signed by one of the partners or an "authorized representative" of the Partnership;
  - (c) **a corporation**, the president, vice-president, secretary, or "authorized

representative” of the corporation shall sign and affix the corporate seal to the Proposal Form.

As used in these Instructions to Bidders, “authorized representative” is defined as a person to whom the bidder has granted written authority to conduct business in the bidder’s behalf by signing and/or modifying the bid. Such written authority shall be signed by the bidder (the individual proprietor, or a member of the Partnership, or an officer of the Corporation) and shall be attached to the Proposal Form.

(8) Interlineation, alterations or erasures on the Proposal Form must be initialed by the bidder or its “authorized representative”.

**b. Bid Guaranty**

(1) The Proposal Form must be accompanied by a cashier’s check, drawn on an Alabama bank, or a Bid Bond, executed by a surety company duly authorized and qualified to make such bonds in the State of Alabama, payable to the Awarding Authority.

(2) If a Bid Bond is provided in lieu of a cashier’s check, the bond shall be on the Bid Bond form as stipulated in the Bid Documents.

(3) The amount of the cashier’s check or Bid Bond shall not be less than five percent of the contractor’s bid, but is not required to be in an amount more than ten thousand dollars.

**c. Delivery of Bids:**

(1) Bids will be received until the time set, and at the location designated, in the Advertisement for Bids unless notice is given of postponement. Any bid not received prior to the time set for opening bids will be rejected absent extenuating circumstances and such bids shall be rejected in all cases where received after other bids are opened.

(2) Each bid shall be placed, together with the bid guaranty, in a sealed envelope. On the outside of the envelope the bidder shall write in large letters “Proposal”, below which the bidder shall identify the Project and the Work bid on, the name of the bidder, and the bidder’s current general contractor’s state license number.

(3) Bids may be delivered in person, or by mail if ample time is allowed for delivery. When sent by mail, the sealed envelope containing the bid, marked as indicated above, shall be enclosed in another envelope for mailing.

**9. WITHDRAWAL or REVISION of BIDS:**

**a.** A bid may be withdrawn prior to the time set for opening of bids, provided a written request, executed by the bidder or the bidder’s “authorized representative”, is filed with the Architect prior to that time. The bid will then be returned to the bidder unopened.

**b.** A bid which has been sealed in its delivery envelope may be revised by writing the change in price on the outside of the delivery envelope over the signature of the bidder or the bidder’s

“authorized representative”. In revising the bid in this manner, the bidder must only write the amount of the change in price on the envelope **and must not reveal the bid price.**

c. Written communications, signed by the bidder or its “authorized representative”, to revise bids will be accepted if received by the Architect prior to the time set for opening bids. The Architect will record the instructed revision upon opening the bid. Such written communication may be by facsimile if so stipulated in Supplemental Instructions to Bidders. In revising the bid in this manner, the bidder must only write the amount of the change in price **and must not reveal the bid price.**

d. Except as provided in Article 12 of these Instructions to Bidders, no bid shall be withdrawn, modified, or corrected after the time set for opening bids.

## **10. OPENING of BIDS:**

Bids will be opened and read publicly at the time and place indicated in the Advertisement for Bids. Bidders or their authorized representatives are invited to be present.

## **11. INCOMPLETE and IRREGULAR BIDS:**

A bid that is not accompanied by data required by the Bid Documents, or a bid which is in any way incomplete, may be rejected. Any bid which contains any uninitialed alterations or erasures, or any bid which contains any additions, alternate bids, or conditions not called for, or any other irregularities of any kind, will be subject to rejection.

## **12. BID ERRORS**

a. **Errors and Discrepancies in the Proposal Form.** In case of error in the extension of prices in bids, the unit price will govern. In case of discrepancy between the prices shown in the figures and in words, the words will govern.

b. **Mistakes within the Bid.** If the low bidder discovers a mistake in its bid, the low bidder may seek withdrawal of its bid without forfeiture of its bid guaranty under the following conditions:

(1) **Timely Notice:** The low bidder must notify the Awarding Authority and Architect in writing, within three working days after the opening of bids, that a mistake was made. This notice must be given within this time frame whether or not award has been made.

(2) **Substantial Mistake:** The mistake must be of such significance as to render the bid price substantially out of proportion to the other bid prices.

(3) **Type of Mistake:** The mistake must be due to calculation or clerical error, an inadvertent omission, or a typographical error which results in an erroneous sum. A mistake of law, judgment, or opinion shall not constitute a valid ground for withdrawal without forfeiture.

(4) **Documentary Evidence:** Clear and convincing documentary evidence of the

mistake must be presented to the Awarding Authority and the Architect as soon as possible, but no later than three working days after the opening of bids.

The Awarding Authority's decision regarding a low bidder's request to withdraw its bid without penalty shall be made within 10 days after receipt of the bidder's evidence or by the next regular meeting of the Awarding Authority. Upon withdrawal of bid without penalty, the low bidder shall be prohibited from (1) doing work on the project as a subcontractor or in any other capacity and (2) bidding on the same project if it is re-bid.

### **13. DISQUALIFICATION of BIDDERS:**

Any bidder(s) may be disqualified from consideration for contract award for the following reasons:

**a. Collusion.** Any agreement or collusion among bidders or prospective bidders in restraint of freedom of competition to bid at a fixed price or to refrain from bidding or otherwise shall render the bids void and shall cause the bidders or prospective bidders participating in such agreement or collusion to be disqualified from submitting further bids to the Awarding Authority on future lettings. (See § 39-2-6, Code of Alabama 1975, for possible criminal sanctions.)

**b. Advance Disclosure.** Any disclosure in advance of the terms of a bid submitted in response to an Advertisement for Bids shall render the proceedings void and require re-advertisement and rebid.

**c. Failure to Settle Other Contracts.** The Awarding Authority may reject a bid from a bidder who has not paid, or satisfactorily settled, all bills due for labor and material on other contracts in force at the time of letting.

### **14. CONSIDERATION of BIDS:**

**a.** After the bids are opened and read publicly, the bid prices will be compared and the results of this comparison will be available to the public. Until the final award of the contract, however, the Awarding Authority shall have the right to reject any or all bids, and it shall have the right to waive technical errors and irregularities if, in its judgment, the bidder will not have obtained a competitive advantage and the best interests of the Awarding Authority will be promoted.

**b.** If the Bid Documents request bids for projects or parts of projects in combination or separately, the Bid Documents must include modifications of, or supplements to, these Instructions to Bidders setting forth applicable bid procedures. Award or awards will be made to the lowest responsible and responsive bidder or bidders in accordance with such bid procedures.

### **15. DETERMINATION of LOW BIDDER by USE of ALTERNATES**

**a.** The Awarding Authority may request alternate bid prices (alternates) to facilitate either reducing the base bid to an amount within the funds available for the project or adding items to

the base bid within the funds available for the project. Alternates, if any, are listed in the Proposal Form in the order in which they shall cumulatively deduct from or add to the base bid for determining the lowest bidder.



**b.** If alternates are included in the Proposal Form, the Awarding Authority shall determine the dollar amount of funds available and immediately prior to the opening of bids shall announce publicly the funds available for the project. The dollar amount of such funds shall be used to determine the lowest bidder as provided herein below, notwithstanding that the actual funds available for the project may subsequently be determined to be more or less than the expected funds available as determined immediately prior to the time of the opening of bids.

**c.** If the base bid of the lowest bidder exceeds the funds available and alternate bid prices will reduce the base bids to an amount that is within the funds available, the lowest bidder will be determined by considering, in order, the fewest number of the alternates that produces a price within the funds available. If the base bid of the lowest bidder is within the funds available and alternate bid prices will permit adding items to the base bid, the lowest bidder will be determined by considering, in order, the greatest number of the alternates that produces a price within the funds available.

**d.** After the lowest bidder has been determined as set forth above, the Awarding Authority may award that bidder any combination of alternates, provided said bidder is also the low bidder when only the Base Bid and such combination of alternates are considered.

## **16. UNIT PRICES:**

**a. Work Bid on a Unit Price Basis.** Where all, or part(s), of the planned Work is bid on a unit price basis, both the unit prices and the extensions of the unit prices constitute a basis of determining the lowest responsible and responsive bidder. In cases of error in the extension of prices of bids, the unit price will govern. A bid may be rejected if any of the unit prices are obviously unbalanced or non-competitive.

**b. Unit Prices for Application to Change Orders.** As a means of predetermining unit costs for changes in certain elements of the Work, the Bid Documents may require that the bidders furnish unit prices for those items in the Proposal Form. Unit prices for application to changes in the work are not a basis for determining the lowest bidder. Non-competitive unit prices proposed by the successful bidder may be rejected and competitive prices negotiated by the Awarding Authority prior to contract award. Unit prices for application to changes in the work are not effective unless specifically included and agreed upon in the Construction Contract.

## **17. AWARD of CONTRACT:**

**a.** The contract shall be awarded to the lowest responsible and responsive bidder unless the Awarding Authority finds that all the bids are unreasonable or that it is not in the best interest of the Awarding Authority to accept any of the bids. A responsible bidder is one who, among other qualities determined necessary for performance, is competent, experienced, and financially able to perform the contract. A responsive bidder is one who submits a bid that complies with the terms and conditions of the Advertisement for Bids and the Bid Documents. Minor irregularities in the bid shall not defeat responsiveness.

**b.** A bidder to whom award is made will be notified by telegram, confirmed facsimile, or letter to the address shown on the Proposal Form at the earliest possible date. Unless other

time frames are stipulated in Supplemental Instructions to Bidders, the maximum time frames allowed for each step of the process between the opening of bids and the issuance of an order to proceed with the work shall be as follows:

(1) Award of contract by Awarding Authority	30 calendar days after the opening of bids
(2) Contractor's return of the fully executed contract, with bonds and evidence of insurance, to the Awarding Authority	15 calendar days after the contract has been presented to the contractor for signature
(3) Awarding Authority's approval of the contractor's bonds and evidence of insurance and completion of contract execution	20 calendar days after the contractor presents complete and acceptable documents to the Architect
(4) Notice To Proceed issued to the contractor	15 calendar days after final execution of contract by the Awarding Authority, and by the Governor if his or her signature on the contract is required by law

The time frames stated above, or as otherwise specified in the Bid Documents, may be extended by written agreement between the parties. Failure by the Awarding Authority to comply with the time frames stated above or stipulated in Supplemental Instructions to Bidders, or agreed extensions thereof, shall be just cause for the withdrawal of the contractor's bid and contract without forfeiture of bid security.

**c.** Should the successful bidder or bidders to whom the contract is awarded fail to execute the Construction Contract and furnish acceptable Performance and Payment Bonds and satisfactory evidence of insurance within the specified period, the Awarding Authority shall retain from the bid guaranty, if it is a cashier's check, or recover from the principal or the sureties, if the guaranty is a bid bond, the difference between the amount of the contract as awarded and the amount of the bid of the next lowest responsible and responsive bidder, but not more than \$10,000. If no other bids are received, the full amount of the bid guaranty shall be so retained or recovered as liquidated damages for such default. Any sums so retained or recovered shall be the property of the Awarding Authority.

**d.** All bid guaranties, except those of the three lowest bona fide bidders, will be returned immediately after bids have been checked, tabulated, and the relation of the bids established. The bid guaranties of the three lowest bidders will be returned as soon as the contract bonds and the contract of the successful bidder have been properly executed and approved. When the award is deferred for a period of time longer than 15 days after the opening of the bids, all bid guaranties, except those of the potentially successful bidders, shall be returned. If no award is made within the specified period, as it may by agreement be extended, all bids will be rejected, and all guaranties returned. If any potentially successful bidder agrees in writing to a stipulated extension in time for consideration of its bid and its bid was guaranteed with a cashier's check, the Awarding Authority may permit the potentially successful bidder to substitute a satisfactory bid bond for the cashier's check.

END of INSTRUCTIONS TO BIDDERS

## PROPOSAL FORM

To: \_\_\_\_\_  
(Awarding Authority)

Date: \_\_\_\_\_

In compliance with your Advertisement for Bids and subject to all the conditions thereof, the undersigned

\_\_\_\_\_  
(Legal Name of Bidder)

hereby proposes to furnish all labor and materials and perform all work required for the construction of  
**WORK** Boiler Replacement at School of Engineering for Alabama A&M University

in accordance with Drawings and Specifications, dated May 2, 2018, prepared by  
Mims Engineering, Inc., Architect/Engineer.

The Bidder, which is organized and existing under the laws of the State of \_\_\_\_\_,  
having its principal offices in the City of \_\_\_\_\_,  
is: ☐ a Corporation ☐ a Partnership ☐ an individual ☐ (other) \_\_\_\_\_.

**LISTING OF PARTNERS OR OFFICERS:** If Bidder is a Partnership, list all partners and their addresses; if Bidder is a Corporation, list the names, titles, and business addresses of its officers:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**BIDDER'S REPRESENTATION:** The Bidder declares that it has examined the site of the Work, having become fully informed regarding all pertinent conditions, and that it has examined the Drawings and Specifications (including all Addenda received) for the Work and the other Bid and Contract Documents relative thereto, and that it has satisfied itself relative to the Work to be performed.

**ADDENDA:** The Bidder acknowledges receipt of Addenda Nos. \_\_\_\_\_ through \_\_\_\_\_ inclusively.

**BASE BID:** For construction complete as shown and specified, the sum of \_\_\_\_\_  
\_\_\_\_\_ Dollars (\$ \_\_\_\_\_)

**ALTERNATES:** If alternates as set forth in the Bid Documents are accepted, the following adjustments are to be made to the Base Bid:

For Alternate No. 1 (.....) (add)(deduct) \$ \_\_\_\_\_  
(Insert key word for Alternate)

For Alternate No. 2 (.....) (add)(deduct) \$ \_\_\_\_\_

For Alternate No. 3 (.....) (add)(deduct) \$ \_\_\_\_\_

For Alternate No. 4 (.....) (add)(deduct) \$ \_\_\_\_\_

For Alternate No. 5 (.....) (add)(deduct) \$ \_\_\_\_\_

For Alternate No. 6 (.....) (add)(deduct) \$ \_\_\_\_\_

**UNIT PRICES** - (See Attachment)

**BID SECURITY:** The undersigned agrees to enter into a Construction Contract and furnish the prescribed Performance and Payment Bonds and evidence of insurance within fifteen calendar days, or such other period stated in the Bid Documents, after the contract forms have been presented for signature, provided such presentation is made within 30 calendar days after the opening of bids, or such other period stated in the Bid Documents. As security for this condition, the undersigned further agrees that the funds represented by the Bid Bond (or cashier's check) attached hereto may be called and paid into the account of the Awarding Authority as liquidated damages for failure to so comply.

Attached hereto is a: *(Mark the appropriate box and provide the applicable information.)*

- ☐ Bid Bond, executed by \_\_\_\_\_ as Surety,  
☐ a cashier's check on the \_\_\_\_\_ Bank of \_\_\_\_\_,  
for the sum of \_\_\_\_\_ Dollars  
(\$ \_\_\_\_\_) made payable to the Awarding Authority.

**BIDDER'S ALABAMA LICENSE:**

State License for General Contracting: \_\_\_\_\_  
License Number Bid Limit Type(s) of Work

**CERTIFICATIONS:** The undersigned certifies that he or she is authorized to execute contracts on behalf of the Bidder as legally named, that this proposal is submitted in good faith without fraud or collusion with any other bidder, that the information indicated in this document is true and complete, and that the bid is made in full accord with State law. Notice of acceptance may be sent to the undersigned at the address set forth below.

The Bidder also declares that a list of all proposed major subcontractors and suppliers will be submitted at a time subsequent to the receipt of bids as established by the Architect in the Bid Documents but in no event shall this time exceed twenty-four (24) hours after receipt of bids.

**Legal Name of Bidder** \_\_\_\_\_

**Mailing Address** \_\_\_\_\_

\* **By (Legal Signature)** \_\_\_\_\_

\* Name (type or print) \_\_\_\_\_ (Seal)

\* Title \_\_\_\_\_

Telephone Number \_\_\_\_\_

\* If other than the individual proprietor, or an above named member of the Partnership, or the above named president, vice-president, or secretary of the Corporation, attach written authority to bind the Bidder. Any modification to a bid shall be over the initials of the person signing the bid, or of an authorized representative.

# ACCOUNTING OF SALES TAX

## Attachment to ABC Form C-3

### Proposal Form

To: \_\_\_\_\_ Date: \_\_\_\_\_  
(Awarding Authority)

NAME OF PROJECT \_\_\_\_\_

### SALES TAX ACCOUNTING

Pursuant to Act 2013-205, Section 1(g) the Contractor accounts for the sales tax NOT included in the bid proposal form as follows:

### ESTIMATED SALES TAX AMOUNT

<b>BASE BID:</b>	\$ _____
Alternate No. 1 (.....)	(add)(deduct) \$ _____
Alternate No. 2 (.....)	(add)(deduct) \$ _____
Alternate No. 3 (.....)	(add)(deduct) \$ _____
Alternate No. 4 (.....)	(add)(deduct) \$ _____
Alternate No. 5 (.....)	(add)(deduct) \$ _____
Alternate No. 6 (.....)	(add)(deduct) \$ _____

**Failure to provide an accounting of sales tax shall render the bid non-responsive. Other than determining responsiveness, sales tax accounting shall not affect the bid pricing nor be considered in the determination of the lowest responsible and responsive bidder.**

**Legal Name of Bidder** \_\_\_\_\_

**Mailing Address** \_\_\_\_\_

**\*By (Legal Signature)** \_\_\_\_\_ (Seal)

**\*Name (type or print)** \_\_\_\_\_

**\*Title** \_\_\_\_\_

**Telephone Number** \_\_\_\_\_

USE BLACK INK ONLY

# BID BOND

The **PRINCIPAL** (*Bidder's Name and Address*)

The **SURETY** (*Name and Principal Place of Business*)

The **OWNER** Alabama Public School and College Authority and Alabama A&M University

The **PROJECT** for which the Principal's Bid is submitted:

Boiler replacement at School of Engineering for Alabama A&M University

**KNOW ALL MEN BY THESE PRESENTS**, that we, the undersigned Principal and Surety, jointly and severally, hereby bind ourselves, our heirs, executors, administrators, successors, and assigns to the Owner in the **PENAL SUM of five percent (5%) of the amount of the Principal's bid, but in no event more than Ten-thousand Dollars (\$10,000.00).**

**THE CONDITION OF THIS OBLIGATION** is that the Principal has submitted to the Owner the attached bid, which is incorporated herein by reference, for the Project identified above.

**NOW, THEREFORE**, if, within the terms of the Bid Documents, the Owner accepts the Principal's bid and the Principal thereafter either:

- (a) executes and delivers a Construction Contract with the required Performance and Payment Bonds (each in the form contained in the Bid Documents and properly completed in accordance with the bid) and delivers evidence of insurance as prescribed in the Bid Documents, or
- (b) fails to execute and deliver such Construction Contract with such Bonds and evidence of insurance, but pays the Owner the difference, not to exceed the Penal Sum of this Bond, between the amount of the Principal's Bid and the larger amount for which the Owner may award a Construction Contract for the same Work to another bidder, **then**, this obligation shall be null and void, otherwise it shall remain in full force and effect.

The Surety, for value received, hereby stipulates and agrees that the obligation of the Surety under this Bond shall not in any manner be impaired or affected by any extension of the time within which the Owner may accept the Principal's bid, and the Surety does hereby waive notice of any such extension.

**SIGNED AND SEALED** this \_\_\_\_\_ day of \_\_\_\_\_, \_\_\_\_\_.

ATTEST:

**PRINCIPAL:**

\_\_\_\_\_  
\_\_\_\_\_

\_\_\_\_\_  
By \_\_\_\_\_

\_\_\_\_\_  
Name and Title

**SURETY:**

ATTEST

\_\_\_\_\_  
\_\_\_\_\_

\_\_\_\_\_  
By \_\_\_\_\_

\_\_\_\_\_  
Name and Title

# PERFORMANCE BOND

USE BLACK INK ONLY

SURETY'S BOND NUMBER

Numbers in margin correspond to "Checklist", ABC Form B-7

- (1)
- (2) The **PRINCIPAL** (*Name and address of Contractor as appear in the Construction Contract*)
- (3) The **SURETY** (*Name and Principal Place of Business*)
- (4) The **OWNER** (*Name and address, same as appears in the Construction Contract*)
- (5) The **PENAL SUM** of this Bond (the Contract Sum)  
Dollars (\$) ).
- (6) **DATE** of the Construction Contract :
- (7) The **PROJECT**: (*Same as appears in the Construction Contract*)

1. **WE, THE PRINCIPAL (hereinafter "Contractor") AND THE SURETY**, jointly and severally, hereby bind ourselves, our heirs, executors, administrators, successors, and assigns to the Owner in the Penal Sum stated above for the performance of the Contract, and Contract Change Orders, in accord with the requirements of the Contract Documents, which are incorporated herein by reference. If the Contractor performs the Contract, and Contract Change Orders, in accordance with the Contract Documents, then this obligation shall be null and void; otherwise it shall remain in full force and effect.
2. The Penal Sum shall remain equal to the Contract Sum as the Contract Sum is adjusted by Contract Change Orders. All Contract Change Orders involving an increase in the Contract Sum will require consent of Surety by endorsement of the Contract Change Order form. The Surety waives notification of any Contract Change Orders involving only extension of the Contract Time.

3. Whenever the Architect gives the Contractor and the Surety, at their addresses stated above, a written Notice to Cure a condition for which the Contract may be terminated in accordance with the Contract Documents, the Surety may, within the time stated in the notice, cure or provide the Architect with written verification that satisfactory positive action is in process to cure the condition.
4. The Surety's obligation under this Bond becomes effective after the Contractor fails to satisfy a Notice to Cure and the Owner:
  - (a) gives the Contractor and the Surety, at their addresses stated above, a written Notice of Termination declaring the Contractor to be in default under the Contract and stating that the Contractor's right to complete the Work, or a designated portion of the Work, shall terminate seven days after the Contractor's receipt of the notice; and
  - (b) gives the Surety a written demand that, upon the effective date of the Notice of Termination, the Surety promptly fulfill its obligation under this Bond.
5. In the presence of the conditions described in Paragraph 4, the Surety shall, at its expense:
  - (a) On the effective date of the Notice of Termination, take charge of the Work and be responsible for the safety, security, and protection of the Work, including materials and equipment stored on and off the Project site, and
  - (b) Within twenty-one days after the effective date of the Notice of Termination, proceed, or provide the Owner with written verification that satisfactory positive action is in process to facilitate proceeding promptly, to complete the Work in accordance with the Contract Documents, either with the Surety's resources or through a contract between the Surety and a qualified contractor to whom the Owner has no reasonable objection.
6. As conditions precedent to taking charge of and completing the Work pursuant to Paragraph 5, the Surety shall neither require, nor be entitled to, any agreements or conditions other than those of this Bond and the Contract Documents. In taking charge of and completing the Work, the Surety shall assume all rights and obligations of the Contractor under the Contract Documents; however, the Surety shall also have the right to assert "Surety Claims" to the Owner in accordance with the Contract Documents. The presence or possibility of a Surety Claim shall not be just cause for the Surety to fail or refuse to promptly take charge of and complete the Work or for the Owner to fail or refuse to continue to make payments in accordance with the Contract Documents.
7. By accepting this Bond as a condition of executing the Construction Contract, and by taking the actions described in Paragraph 4, the Owner agrees that:
  - (a) the Owner shall promptly advise the Surety of the unpaid balance of the Contract Sum and, upon request, shall make available or furnish to the Surety, at the cost of reproduction, any portions of the Project Record, and
  - (b) as the Surety completes the Work, or has it completed by a qualified contractor, the Owner shall pay the Surety, in accordance with terms of payment of the Contract Documents, the unpaid balance of the Contract Sum, less any amounts that may be or become due the Owner from the Contractor under the Construction Contract or from the Contractor or the Surety under this Bond.
8. In the presence of the conditions described in Paragraph 4, the Surety's obligation includes responsibility for the correction of Defective Work, liquidated damages, and reimbursement of any reasonable expenses incurred by the Owner as a result of the Contractor's default under the Contract, including architectural, engineering, administrative, and legal services.



Numbers in margin correspond to "Checklist", ABC Form B-7

9. Nothing contained in this Bond shall be construed to mean that the Surety shall be liable to the Owner for an amount exceeding the Penal Sum of this Bond, except in the event that the Surety should be in default under the Bond by failing or refusing to take charge of and complete the Work pursuant to Paragraph 5. If the Surety should fail or refuse to take charge of and complete the Work, the Owner shall have the authority to take charge of and complete the Work, or have it completed, and the following costs to the Owner, less the unpaid balance of the Contract Sum, shall be recoverable under this Bond:

- (a) the cost of completing the Contractor's responsibilities under the Contract, including correction of Defective Work;
- (b) additional architectural, engineering, managerial, and administrative services, and reasonable attorneys' fees incident to completing the Work;
- (c) interest on, and the cost of obtaining, funds to supplement the unpaid balance of the Contract Sum as may be necessary to cover the foregoing costs;
- (d) the fair market value of any reductions in the scope of the Work necessitated by insufficiency of the unpaid balance of the Contract Sum and available supplemental funds to cover the foregoing costs; and
- (f) additional architectural, engineering, managerial, and administrative services, and reasonable attorneys' fees incident to ascertaining and collecting the Owner's losses under the Bond.

10. All claims and disputes arising out of or related to this bond, or its breach, shall be resolved in accordance with Article 24, General Conditions of the Contract.

(8) **SIGNED AND SEALED** this \_\_\_\_\_ day of \_\_\_\_\_, \_\_\_\_\_.

(9) **ATTEST:** **CONTRACTOR as PRINCIPAL:**

\_\_\_\_\_

\_\_\_\_\_

By \_\_\_\_\_

\_\_\_\_\_  
Name and Title

(10) Countersigned by  
Alabama Resident Agent for Surety:

**SURETY:**

By \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_  
Name

By \_\_\_\_\_

\_\_\_\_\_  
Address

\_\_\_\_\_  
Name and Title

(11) **NOTE:** Power of attorney for the Surety's signatory shall be furnished with the original and five copies of the bond.

State of Alabama  
**Disclosure Statement**  
(Required by Act 2001-955)

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ENTITY COMPLETING FORM

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NAME

---

ADDRESS

---

CITY, STATE, ZIP

---

TELEPHONE NUMBER

---

STATE AGENCY/DEPARTMENT THAT WILL RECEIVE GOODS, SERVICES, OR IS RESPONSIBLE FOR GRANT AWARD

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ADDRESS

---

CITY, STATE, ZIP

---

TELEPHONE NUMBER

---

(       )

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This form is provided with:

☐

Contract

☐

Proposal

☐

Request for Proposal

☐

Invitation to Bid

☐

Grant Proposal

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Have you or any of your partners, divisions, or any related business units previously performed work or provided goods to any State Agency/Department in the current or last fiscal year?

☐ Yes

☐ No

If yes, identify below the State Agency/Department that received the goods or services, the type(s) of good or services previously provided, and the amount received for the provision of such goods or services.

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Have you or any of your partners, divisions, or any related business units previously applied and received any grants from any State Agency/Department in the current or last fiscal year?

☐ Yes

☐ No

If yes, identify the State Agency/Department that awarded the grant, the date such grant was awarded, and the amount of the grant.

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1. List below the name(s) and address(es) of all public officials/public employees with whom you, members of your immediate family, or any of your employees have a family relationship and who may directly personally benefit financially from the proposed transaction. Identify the State Department/Agency for which the public officials/public employees work. (Attach additional sheets if necessary.)

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N/A

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2. List below the name(s) and address(es) of all family members of public officials/public employees with whom you, members of your immediate family, or any of your employees have a family relationship and who may directly personally benefit financially from the proposed transaction. Identify the public officials/public employees and State Department/Agency for which the public officials/public employees work. (Attach additional sheets if necessary.)

N/A

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If you identified individuals in items one and/or two above, describe in detail below the direct financial benefit to be gained by the public officials, public employees, and/or their family members as the result of the contract, proposal, request for proposal, invitation to bid, or grant proposal. (Attach additional sheets if necessary.)

N/A

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Describe in detail below any indirect financial benefits to be gained by any public official, public employee, and/or family members of the public official or public employee as the result of the contract, proposal, request for proposal, invitation to bid, or grant proposal. (Attach additional sheets if necessary.)

N/A

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List below the name(s) and address(es) of all paid consultants and/or lobbyists utilized to obtain the contract, proposal, request for proposal, invitation to bid, or grant proposal:

N/A

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***By signing below, I certify under oath and penalty of perjury that all statements on or attached to this form are true and correct to the best of my knowledge. I further understand that a civil penalty of ten percent (10%) of the amount of the transaction, not to exceed \$10,000.00, is applied for knowingly providing incorrect or misleading information.***

Signature

Date

Notary's Signature

Date

Date Notary Expires

*Act 2001-995 requires the disclosure statement to be completed and filed with all proposals, bids, contracts, or grant proposals to the State of Alabama in excess of \$5,000.*

**CERTIFICATION OF COMPLIANCE  
WITH SECTION NINE OF ACT 2011-535**

The Undersigned Officer of \_\_\_\_\_(Company) certifies to the Board of Trustees, Alabama A & M University, that the Company shall not knowingly employ, hire for employment, or continue to employ an unauthorized alien and does attest to such by sworn affidavit signed before a notary. Furthermore, the Company certifies that it has provided its one-page E-Verify Company Profile Document to the University. During the performance of the contract, the Company shall participate in the E-Verify Program and shall verify every employee that is required to be verified according to the applicable federal rules and regulations. The Company also certifies that it will obtain sworn affidavits signed by a notary from any subcontractors furnishing goods/services under this contract attesting to the fact that they do not employ, hire for employment, or continue to employ an unauthorized alien and that they participate in the E-Verify Program and verify every employee that is required to be verified according to the applicable federal rules and regulations.

\_\_\_\_\_  
PRINT COMPANY NAME

\_\_\_\_\_  
SIGNATURE OF COMPANY OFFICER

\_\_\_\_\_  
PRINT TITLE OF COMPANY OFFICER

\_\_\_\_\_  
DATE

Sworn and subscribed to before me this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_.

\_\_\_\_\_  
NOTARY PUBLIC

My commission expires: \_\_\_\_\_

Dept Use Only
Invoice # _____
Date Paid _____
Confirmation # _____

## PERMIT FEE CALCULATION WORKSHEET

BC # \_\_\_\_\_ DATE \_\_\_\_\_

PROJECT NAME \_\_\_\_\_

OWNER \_\_\_\_\_ ARCHITECT \_\_\_\_\_

CONTRACTOR \_\_\_\_\_

AWARDED CONTRACT AMOUNT \_\_\_\_\_

### Calculation of Fee:

Less than \$1,000     N/A

#### \$1,001 - \$50,000

Cost of Work less \$ 1,000= \_\_\_\_\_ /1,000 x \$5.00= \_\_\_\_\_ +\$15.00= \_\_\_\_\_

#### \$50,000 - \$100,000

Cost of Work less \$50,000= \_\_\_\_\_ /1,000 x \$4.00= \_\_\_\_\_ +\$260.00= \_\_\_\_\_

#### \$100,000 - \$500,000

Cost of Work less \$100,000= \_\_\_\_\_ /1,000 x \$3.00= \_\_\_\_\_ +\$460.00= \_\_\_\_\_

#### \$500,001 and up

Cost of Work less \$500,000= \_\_\_\_\_ /1,000 x \$2.00= \_\_\_\_\_ +\$1,660.00= \_\_\_\_\_

The PERMIT FEE is to be paid before scheduling the Pre-Construction Conference. The PERMIT FEE is based on the awarded construction contract amount. A copy of the signed construction contract must be received prior to the Pre-Construction Conference.

The FINAL RECONCILIATION OF PERMIT FEE must be paid prior to the Year-End Inspection. The FINAL RECONCILIATION OF PERMIT FEE is based on the Contractor's Final Pay Application including all change orders and sales tax credits received by the Owner.

**SECTION 00431**

**SUPPLEMENT A - LIST OF SUBCONTRACTORS**

**PARTICULARS**

**1.01 HEREWITH IS THE LIST OF SUBCONTRACTORS REFERENCED IN THE BID SUBMITTED BY:**

**1.02 (BIDDER)** \_\_\_\_\_

**1.03 TO:** Alabama A&M University

**1.04 DATED** \_\_\_\_\_ **AND WHICH IS AN INTEGRAL PART OF THE BID FORM.**

**1.05 THE FOLLOWING WORK WILL BE PERFORMED (OR PROVIDED) BY SUBCONTRACTORS  
AND COORDINATED BY US:**

**LIST OF SUBCONTRACTORS**

**2.01 WORK SUBJECT.....SUBCONTRACTOR NAME**

**2.02 DEMOLITION** \_\_\_\_\_

**2.03 MODIFIED BITUMEN SHEET ROOFING** \_\_\_\_\_

**2.04 DOOR FRAMES** \_\_\_\_\_

**2.05 DOORS** \_\_\_\_\_

**2.06 DOOR HARDWARE** \_\_\_\_\_

**2.07 GLAZING** \_\_\_\_\_

**2.08 ACOUSTICAL AND DRYWALL** \_\_\_\_\_

**2.09 FLOORING** \_\_\_\_\_

**2.10 PAINTING** \_\_\_\_\_

**2.11 MECHANICAL** \_\_\_\_\_

**2.12 ELECTRICAL** \_\_\_\_\_

**END OF SUPPLEMENT A**

## **SECTION 00500**

### **CONSTRUCTION DOCUMENTS AND FORMS**

#### **PART 1 GENERAL**

##### **1.01 DOCUMENTS**

- A. Construction Contract - ABC Form C-5, dated August 2001.
- B. Procurement Agreement
- C. Performance Bond - ABC Form C-6, dated August 2001.
- D. Payment Bond - ABC Form C-7, dated August 2001.
- E. General Conditions of the Contract - ABC Form C-8, dated August 2001.
- F. Section 00800 Supplementary Conditions of the Contract.
  - 1. Supplement to the General Conditions of the Contract – ABC Form C-8 Supplement, dated August 2009.
  - 2. Appendix A-Supplementary Conditions of the Contract-Weather Delays
  - 3. Appendix B-Supplementary Conditions of the Contract-Article 37
  - 4. Appendix C-Supplementary Conditions of the Contract-Article 49
  - 5. Appendix D-Supplementary Conditions of the Contract-Article 44
    - a. Procurement Agreement
  - 6. Appendix E-Supplementary Conditions Of The Contract-Article 29
- H. Application and Certificate for Payment, ABC Form C-10ST, dated July 2004.
- I. Inventory of Stored Materials, ABC Form C-10SM, dated August 2001.
- J. Material Invoice Summary, ABC Form MIS Short, dated July 2004.
- K. Material Invoice Transmittal, ABC Form MIT, dated July 2004.
- L. Progress Schedule and Report, ABC Form C-11, dated August 2001.
- M. Contract Change Order, ABC Form C-12, dated July 2006.
- N. Certificate of Substantial Completion, ABC Form C-13, dated August 2001.
- O. Form of Advertisement of Completion, ABC Form C-14, dated August 2001.
- P. State of Alabama Disclosure Statement.
- Q. Contractor's E-Verify Clause and Affidavit

##### **1.02 DOCUMENT AVAILABILITY**

- A. A copy of the documents and forms noted above is attached hereto, as provided by the Alabama Building Commission.
- B. Additional copies may be obtained from the office of the Alabama Building Commission, RSA Plaza, 770 Washington Avenue, Suite 444, Montgomery, Alabama 36130, phone (334) 242-4082.



**PART 2 PRODUCTS - NOT USED**

**PART 3 EXECUTION - NOT USED**

**END OF SECTION**

Numbers in margin correspond to "Checklist", ABC Form B-7

**BC Project No.**

## CONSTRUCTION CONTRACT

- (1)
- (2) This Construction Contract is entered into this            day of            in the year of
- (3) between the **OWNER(s), Alabama A&M University**  
**P.O. Box 1837**  
**Normal, AL 35762**
- (4) and the **CONTRACTOR,**
- (5) for the **WORK** of the Project, identified as:
- (6) The **CONTRACT DOCUMENTS** are dated            and have been amended by
- (7) **ADDENDA**
- (8) The **ARCHITECT** is
- (9) The **CONTRACT SUM** is            Dollars  
(\$            ) and is the sum of the Contractor's Base Bid for the Work and the following
- (10) **BID ALTERNATE PRICES:**
- (11) The **CONTRACT TIME** is            (            ) calendar days.
- THE OWNER AND THE CONTRACTOR AGREE AS FOLLOWS:**
- The Contract Documents, as defined in the General Conditions of the Contract (ABC Form C-8), are incorporated herein by reference. The Contractor shall perform the Work in accordance with the Contract Documents. The Owner will pay and the Contractor will accept as full compensation for such performance of the Work, the Contract Sum subject to additions and deductions (including liquidated damages) as provided in the Contract Documents. The Work shall be commenced on a date to be specified in a Notice to Proceed issued by the Owner or the Director, Technical Staff, Alabama Building Commission, and shall then be substantially completed within the Contract Time.
- (12) **LIQUIDATED DAMAGES** for which the Contractor and its Surety (if any) shall be liable and may be required to pay the Owner in accordance with the Contract Documents shall be equal to six percent interest per annum on the total Contract Sum unless a dollar amount is stipulated in the following space, in which case liquidated damages shall be determined at One Thousand dollars (\$1,000.00) per calendar day.

(13) **SPECIAL PROVISIONS** *(Special Provisions may be inserted here, such as Acceptance or Rejection of Unit Prices.)*

*By signing this contract, the contracting parties affirm, for the duration of the agreement, that they will not violate federal immigration law or knowingly employ, hire for employment, or continue to employ an unauthorized alien within the state of Alabama. Furthermore, a contracting party found to be in violation of this provision shall be deemed in breach of the agreement and shall be responsible for all damages resulting therefrom.*

*In compliance with Act 2016-312, the contractor hereby certifies that it is not currently engaged in, and will not engage in, the boycott of a person or an entity based in or doing business with a jurisdiction with which this state can enjoy open trade.*

(14) **STATE GENERAL CONTRACTOR'S LICENSE:** The Contractor does hereby certify that Contractor is currently licensed by the Alabama State Licensing Board for General Contractors and that the certificate for such license bears the following:

License No.                      Bid Limit:                      Classification:

The Owner and Contractor have entered into this Construction Contract as of the date first written above and have executed this Construction Contract in sufficient counterparts to enable each contracting party to have an originally executed Construction Contract each of which shall, without proof or accounting for the other counterparts, be deemed an original thereof.

The Owner does hereby certify that this Construction Contract was let in accordance with the provisions of Title 39, Code of Alabama 1975, as amended, and all other applicable provisions of law, and that the terms and commitments of this Construction Contract do not constitute a debt of the State of Alabama in violation of Article 11, Section 213 of the Constitution of Alabama, 1901, as amended by Amendment Number 26.

APPROVALS	CONTRACTING PARTIES
<p>_____</p> <p>By _____</p> <p><b>STATE OF ALABAMA BUILDING COMMISSION</b> <i>(Not required for locally-funded projects.)</i></p> <p>By _____</p> <p style="text-align: center;">Director, Technical Staff</p>	<p>_____</p> <p style="text-align: center;">Contractor</p> <p>By _____</p> <p>Name &amp; Title _____</p> <p style="text-align: center;"><u>Alabama A&amp;M University</u> Owner</p> <p>By _____</p> <p>Name &amp; Title <u>Dr. Andrew Hugine, Jr., President</u></p>

SURETY'S BOND NUMBER

# PAYMENT BOND

USE BLACK INK ONLY

The **PRINCIPAL**

The **SURETY** (Name and Principal Place of Business)

The **OWNER(s)** Alabama A&M University  
4900 Meridian Street  
Normal, AL 35762

The **PENAL SUM** of this Bond

**DATE** of the Construction Contract:

The **PROJECT:** Boiler Replacement at School of Engineering for Alabama A&M University

1. **WE, THE PRINCIPAL (hereinafter "Contractor") AND THE SURETY**, jointly and severally, hereby bind ourselves, our heirs, executors, administrators, successors, and assigns to the Owner in the Penal Sum stated above to promptly pay all persons supplying labor, materials, or supplies for or in the prosecution of the Contract, which is incorporated herein by reference, and any modifications thereof by Contract Change Orders. If the Contractor and its Subcontractors promptly pay all persons supplying labor, materials, or supplies for or in the prosecution of the Contract and Contract Change Orders, then this obligation shall be null and void; otherwise to remain and be in full force and effect.
2. The Penal Sum shall remain equal to the Contract Sum as the Contract Sum is adjusted by Contract Change Orders. All Contract Change Orders involving an increase in the Contract Sum will require consent of Surety by endorsement of the Contract Change Order form. The Surety waives notification of any Contract Change Orders involving only extension of the Contract Time.
3. Any person that has furnished labor, materials, or supplies for or in the prosecution of the Contract and Contract Change Orders for which payment has not been timely made may institute a civil action upon this Bond and have their rights and claims adjudicated in a civil action and judgment entered thereon. Notwithstanding the foregoing, a civil action may not be instituted on this bond until 45 days after written notice to the Surety of the amount claimed to be due and the nature of the claim. The civil action must commence not later than one year from the date of final settlement of the Contract. The giving of notice by registered or certified mail, postage prepaid, addressed to the Surety at any of its places of business or offices shall be deemed sufficient. In the event the Surety or Contractor fails to pay the claim in full within 45 days from the mailing of the notice, then the person or persons may recover from the Contractor and Surety, in addition to the amount of the claim, a reasonable attorney's fee based on the result, together with interest on the claim from the

date of the notice.

4. Every person having a right of action on this bond shall, upon written application to the Owner indicating that labor, material, or supplies for the Work have been supplied and that payment has not been made, be promptly furnished a certified copy of this bond and the Construction Contract. The claimant may bring a civil action in the claimant's name on this Bond against the Contractor and the Surety, or either of them, in the county in which the Work is to be or has been performed or in any other county where venue is otherwise allowed by law.
5. This bond is furnished to comply with Code of Alabama, §39-1-1, and all provisions thereof shall be applicable to civil actions upon this bond.
6. All claims and disputes between Owner and either the Contractor or Surety arising out of or related to this bond, or its breach, shall be resolved in accordance with Article 24, General Conditions of the Contract

(8) **SIGNED AND SEALED** this \_\_\_\_\_ day of \_\_\_\_\_, \_\_\_\_\_.

(9) ATTEST:

**CONTRACTOR as PRINCIPAL:**

\_\_\_\_\_

By \_\_\_\_\_

\_\_\_\_\_  
Name and Title

(10) Countersigned by  
Alabama Resident Agent for Surety:

**SURETY:**

By \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_  
Name

By \_\_\_\_\_

\_\_\_\_\_  
Address

\_\_\_\_\_  
Name and Title

# GENERAL CONDITIONS of the CONTRACT

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## **ARTICLE 1** **DEFINITIONS**

Whenever the following terms, or pronouns in place of them, are used in the Contract Documents, the intent and meaning shall be interpreted as follows:

- A. ALABAMA BUILDING COMMISSION:** The Technical Staff of the Alabama Building Commission.
- B. ARCHITECT:** The Architect is the person or entity lawfully licensed to practice architecture in the State of Alabama, who is under contract with the Owner as the primary design professional for the Project and identified as the Architect in the Construction Contract. The term "Architect" means the Architect or the Architect's authorized representative. If the employment of the Architect is terminated, the Owner shall employ a new Architect whose status under the Contract Documents shall be that of the former Architect. If the primary design professional for the Project is a Professional Engineer, the term "Engineer" shall be substituted for the term "Architect" wherever it appears in this document.

- C. BC PROJECT INSPECTOR:** The member of the Technical Staff of the Alabama Building Commission to whom the Project is assigned relative to executing the respective inspections and authorities described in Article 16, Inspection of the Work.
- D. COMMISSION:** The Alabama Building Commission, or any agency that may be designated by the Legislature as its successor.
- E. CONTRACT:** The Contract is the embodiment of the Contract Documents. The Contract represents the entire and integrated agreement between the Owner and Contractor and supersedes any prior written or oral negotiations, representations or agreements that are not incorporated into the Contract Documents. The Contract may be amended only by a Contract Change Order or a Modification to the Construction Contract. The contractual relationship which the Contract creates between the Owner and the Contractor extends to no other persons or entities. The Contract consists of the following Contract Documents, including all additions, deletions, and modifications incorporated therein before the execution of the Construction Contract:
- (1) Construction Contract
  - (2) Performance and Payment Bonds
  - (3) Conditions of the Contract (General, Supplemental, and other Conditions)
  - (4) Specifications
  - (5) Drawings
  - (6) Contract Change Orders
  - (7) Modifications to the Construction Contract (applicable to PSCA Projects)
- F. CONTRACT SUM:** The Contract Sum is the total amount payable by the Owner to the Contractor for performance of the Work under the Contract Documents. The term “Contract Sum” means the Contract Sum stated in the Construction Contract as may have been increased or decreased by Change Order(s) in accordance with the Contract Documents.
- G. CONTRACT TIME:** The Contract Time is the period of time in which the Contractor must achieve Substantial Completion of the Work. The date on which the Contract Time begins is specified in the written Notice To Proceed issued to the Contractor by the Owner or Director. The Date of Substantial Completion is the date established in accordance with Article 32. The term “Contract Time” means the Contract Time stated in the Construction Contract as may have been extended by Change Order(s) in accordance with the Contract Documents. The term “day” as used in the Contract Documents shall mean calendar day unless otherwise specifically defined.
- H. CONTRACTOR:** The Contractor is the person or persons, firm, partnership, joint venture, association, corporation, cooperative, limited liability company, or other legal entity, identified as such in the Construction Contract. The term “Contractor” means the Contractor or the Contractor’s authorized representative.
- I. DEFECTIVE WORK:** The term “Defective Work” shall apply to: (1) any product, material, system, equipment, or service, or its installation or performance, which does not conform to the requirements of the Contract Documents, (2) in-progress or completed Work the workmanship of which does not conform to the quality specified or, if not specified, to the quality produced by skilled workers performing work of a similar nature on similar projects in the state, (3) substitutions and deviations not properly submitted and approved or otherwise authorized, (4) temporary supports, structures, or construction which will not produce the results required by the Contract

Documents, and (5) materials or equipment rendered unsuitable for incorporation into the Work due to improper storage or protection.

- J. DIRECTOR:** The Director of the Technical Staff of the Alabama Building Commission.
- K. DRAWINGS:** The Drawings are the portions of the Contract Documents showing graphically the design, location, layout, and dimensions of the Work, in the form of plans, elevations, sections, details, schedules, and diagrams.
- L. NOTICE TO PROCEED:** A proceed order issued by the Owner or Director, as applicable, fixing the date on which the Contractor shall begin the prosecution of the Work, which is also the date on which the Contract Time shall begin.
- M. OWNER:** The Owner is the entity or entities identified as such in the Construction Contract and is referred to throughout the Contract Documents as if singular in number. The term "Owner" means the Owner or the Owner's authorized representative. The term "Owner" as used herein shall be synonymous with the term "Awarding Authority" as defined and used in Title 39 - Public Works, Code of Alabama, 1975, as amended.
- N. THE PROJECT:** The Project is the total construction of which the Work required by these Contract Documents may be the entirety or only a part with other portions to be constructed by the Owner or separate contractors.
- O. PROJECT MANUAL:** The Project Manual is the volume usually assembled for the Work which may include the Advertisement for Bids, Instructions to Bidders, sample forms, General Conditions of the Contract, Supplementary Conditions, and Specifications of the Work.
- P. SPECIFICATIONS:** The Specifications are that portion of the Contract Documents which set forth in writing the standards of quality and performance of products, equipment, materials, systems, and services and workmanship required for acceptable performance of the Work.
- Q. SUBCONTRACTOR:** A Subcontractor is a person or entity who is undertaking the performance of any part of the Work by virtue of a contract with the Contractor. The term "Subcontractor" means a Subcontractor or its authorized representatives.
- R. THE WORK:** The Work is the construction and services required by the Contract Documents and includes all labor, materials, supplies, equipment, and other items and services as are necessary to produce the required construction and to fulfill the Contractor's obligations under the Contract. The Work may constitute the entire Project or only a portion of it.

## **ARTICLE 2**

### **INTENT and INTERPRETATION of the CONTRACT DOCUMENTS**

#### **A. INTENT**

It is the intent of the Contract Documents that the Contractor shall properly execute and complete the Work described by the Contract Documents, and unless otherwise provided in the Contract, the



Contractor shall provide all labor, materials, equipment, tools, construction equipment and machinery, water, heat, utilities, transportation, and other facilities and services, whether temporary or permanent and whether or not incorporated or to be incorporated in the Work, in full accordance with the Contract Documents and reasonably inferable from them as being necessary to produce the indicated results.

**B. COMPLEMENTARY DOCUMENTS**

The Contract Documents are complementary. If Work is required by one Contract Document, the Contractor shall perform the Work as if it were required by all of the Contract Documents. However, the Contractor shall be required to perform Work only to the extent that is consistent with the Contract Documents and reasonably inferable from them as being necessary to produce the indicated results.

**C. ORDER of PRECEDENCE**

Should any discrepancy arise between the various elements of the Contract Documents, precedence shall be given to them in the following order unless to do so would contravene the apparent Intent of the Contract Documents stated in preceding Paragraph A:

- (1) The Construction Contract.
- (2) Addenda, with those of later date having precedence over those of earlier date.
- (3) Supplementary Conditions (or other Conditions which modify the General Conditions of the Contract).
- (4) General Conditions of the Contract.
- (5) The Specifications.
- (6) Details appearing on the Drawings; large scale details shall take precedence over smaller scale details.
- (7) The Drawings; large scale drawings shall take precedence over smaller scale drawings.

**D. ORGANIZATION**

Except as may be specifically stated within the technical specifications, neither the organization of the Specifications into divisions, sections, or otherwise, nor any arrangement of the Drawings shall control how the Contractor subcontracts portions of the Work or assigns Work to any trade.

**E. INTERPRETATION**

(1) The Contract Documents shall be interpreted collectively, each part complementing the others and consistent with the Intent of the Contract Documents stated in preceding Paragraph A. Unless an item shown or described in the Contract Documents is specifically identified to be furnished or installed by the Owner or others or is identified as "Not In Contract" ("N.I.C."), the Contractor's obligation relative to that item shall be interpreted to include furnishing, assembling, installing, finishing, and/or connecting the item at the Contractor's expense to produce a product or system that is complete, appropriately tested, and in operative condition ready for use or subsequent construction or operation of the Owner or separate contractors. The omission of words or phrases for brevity of the Contract Documents, the inadvertent omission of words or phrases, or obvious typographical or written errors shall not defeat such interpretation as long as it is reasonably inferable from the Contract Documents as a whole.

(2) Words or phrases used in the Contract Documents which have well-known technical or construction industry meanings are to be interpreted consistent with such recognized meanings unless otherwise indicated.

(3) Except as noted otherwise, references to standard specifications or publications of associations, bureaus, or organizations shall mean the latest edition of the referenced standard specification or publication as of the date of the Advertisement for Bids.

(4) In the case of inconsistency between Drawings and Specifications or within either document not clarified by addendum, the better quality or greater quantity of Work shall be provided in accordance with the Architect's interpretation.

(5) Generally, portions of the Contract Documents written in longhand take precedence over typed portions, and typed portions take precedence over printed portions.

(6) Any doubt as to the meaning of the Contract Documents or any obscurity as to the wording of them, shall be promptly submitted in writing to the Architect for written interpretation, explanation, or clarification.

**F. SEVERABILITY.**

The partial or complete invalidity of any one or more provision of this Contract shall not affect the validity or continuing force and effect of any other provision.

**ARTICLE 3**  
**CONTRACTOR'S REPRESENTATIONS**

By executing the Construction Contract the Contractor represents to the Owner:

- A. The Contractor has visited the site of the Work to become familiar with local conditions under which the Work is to be performed and to evaluate reasonably observable conditions as compared with requirements of the Contract Documents.
- B. The Contractor shall use its best skill and attention to perform the Work in an expeditious manner consistent with the Contract Documents.
- C. The Contractor is an independent contractor and in performance of the Contract remains and shall act as an independent contractor having no authority to represent or obligate the Owner in any manner unless authorized by the Owner in writing.

**ARTICLE 4**  
**DOCUMENTS FURNISHED to CONTRACTOR**

Unless otherwise provided in the Contract Documents, twenty sets of Drawings and Project Manuals will be furnished to the Contractor by the Architect without charge. Other copies requested will be furnished at reproduction cost.

**ARTICLE 5**  
**OWNERSHIP of DRAWINGS**

All original or duplicated Drawings, Specifications, and other documents prepared by the Architect, and furnished to the Contractor are the property of the Architect and are to be used solely for this Project and not to be used in any manner for other work. Upon completion of the Work, all copies of Drawings and Specifications, with the exception of the Contractor's record set, shall be returned or accounted for by the Contractor to the Architect, on request.

**ARTICLE 6**  
**SUPERVISION, SUPERINTENDENT, and EMPLOYEES**

**A. SUPERVISION and CONSTRUCTION METHODS**

(1) The term "Construction Methods" means the construction means, methods, techniques, sequences, and procedures utilized by the Contractor in performing the Work. The Contractor is solely responsible for supervising and coordinating the performance of the Work, including the selection of Construction Methods, unless the Contract Documents give other specific instructions concerning these matters.

(2) The Contractor is solely and completely responsible for job site safety, including the protection of persons and property in accordance with Article 14.

(3) The Contractor shall be responsible to the Owner for acts and omissions of not only the Contractor and its agents and employees, but all persons and entities, and their agents and employees, who are performing portions of the Work for or on behalf of the Contractor or any of its Subcontractors.

(4) The Contractor shall be responsible to inspect the in-progress and completed Work to verify its compliance with the Contract Documents and to insure that any element or portion of the Work upon which subsequent Work is to be applied or performed is in proper condition to receive the subsequent Work.

**B. SUPERINTENDENT**

(1) The Contractor shall employ and maintain a competent level of supervision for the performance of the Work at the Project site, including a superintendent who shall: (a) have full authority to receive instructions from the Architect or Owner and to act on those instructions and (b) be present at the Project site at all times during which Work is being performed.

(2) Before beginning performance of the Work, the Contractor shall notify the Architect in writing of the name and qualifications of its proposed superintendent so that the Owner may review the individual's qualifications. If, for reasonable cause, the Owner refuses to approve the individual, or withdraws its approval after once giving it, the Contractor shall name a different superintendent for the Owner's review and approval. Any disapproved superintendent will not perform in that capacity thereafter at the Project site.

**C. EMPLOYEES**

The Contractor shall permit only fit and skilled persons to perform the Work. The Contractor shall enforce safety procedures, strict discipline, and good order among persons performing the Work. The Contractor will remove from its employment on the Project any person who deliberately or persistently produces non-conforming Work or who fails or refuses to conform to reasonable rules of personal conduct contained in the Contract Documents or implemented by the Owner and delivered to the Contractor in writing during the course of the Work.

**ARTICLE 7**

**REVIEW of CONTRACT DOCUMENTS and FIELD CONDITIONS by CONTRACTOR**

- A.** In order to facilitate assembly and installation of the Work in accordance with the Contract Documents, before starting each portion of the Work, the Contractor shall examine and compare the relevant Contract Documents, and compare them to relevant field measurements made by the Contractor and any conditions at the site affecting that portion of the Work.
- B.** If the Contractor discovers any errors, omissions, or inconsistencies in the Contract Documents, the Contractor shall promptly report them to the Architect as a written request for information that includes a detailed statement identifying the specific Drawings or Specifications that are in need of clarification and the error, omission, or inconsistency discovered in them.
- (1) The Contractor shall not be expected to act as a licensed design professional and ascertain whether the Contract Documents comply with applicable laws, statutes, ordinances, building codes, and rules and regulations, but the Contractor shall be obligated to promptly notify the Architect of any such noncompliance discovered by or made known to the Contractor. If the Contractor performs Work without fulfilling this notification obligation, the Contractor shall pay the resulting costs and damages that would have been avoided by such notification.
- (2) The Contractor shall not be liable to the Owner for errors, omissions, or inconsistencies that may exist in the Contract Documents, or between the Contract Documents and conditions at the site, unless the Contractor knowingly fails to report a discovered error, omission, or inconsistency to the Architect, in which case the Contractor shall pay the resulting costs and damages that would have been avoided by such notification.
- C.** If the Contractor considers the Architect's response to a request for information to constitute a change to the Contract Documents involving additional costs and/or time, the Contractor shall follow the procedures of Article 20, Claims for Extra Cost or Extra Work.
- D.** If, with undue frequency, the Contractor requests information that is obtainable through reasonable examination and comparison of the Contract Documents, site conditions, and previous correspondence, interpretations, or clarifications, the Contractor shall be liable to the Owner for reasonable charges from the Architect for the additional services required to review, research, and respond to such requests for information.

**ARTICLE 8**  
**SURVEYS by CONTRACTOR**

- A.** The Contractor shall provide competent engineering services to assure accurate execution of the Work in accordance with the Contract Documents. The Contractor shall verify the figures given for the contours, approaches and locations shown on the Drawings before starting any Work and be responsible for the accuracy of the finished Work. Without extra cost to the Owner, the Contractor shall engage a licensed surveyor if necessary to verify boundary lines, keep within property lines, and shall be responsible for encroachments on rights or property of public or surrounding property owners.
- B.** The Contractor shall establish all base lines for the location of the principal components of the Work and make all detail surveys necessary for construction, including grade stakes, batter boards and other working points, lines and elevations. If the Work involves alteration of or addition to existing structures or improvements, the Contractor shall locate and measure elements of the existing conditions as is necessary to facilitate accurate fabrication, assembly, and installation of new Work in the relationship, alignment, and/or connection to the existing structure or improvement as is shown in the Contract Documents.

**ARTICLE 9**  
**SUBMITTALS**

- A.** Where required by the Contract Documents, the Contractor shall submit shop drawings, product data, samples and other information (hereinafter referred to as Submittals) to the Architect for the purpose of demonstrating the way by which the Contractor proposes to conform to the requirements of the Contract Documents. Submittals which are not required by the Contract Documents may be returned by the Architect without action.
- B.** The Contractor shall be responsible to the Owner for the accuracy of its Submittals and the conformity of its submitted information to the requirements of the Contract Documents. Each Submittal shall bear the Contractor's approval, evidencing that the Contractor has reviewed and found the information to be in compliance with the requirements of the Contract Documents. Submittals which are not marked as reviewed and approved by the Contractor may be returned by the Architect without action.
- C.** The Contractor shall prepare and deliver its submittals to the Architect sufficiently in advance of construction requirements and in a sequence as to cause no delay in the Work or in the activities of the Owner or of separate contractors. In coordinating the Submittal process with its construction schedule, the Contractor shall allow sufficient time to permit adequate review by the Architect.
- D.** By approving a Submittal the Contractor represents not only that the element of Work presented in the Submittal complies with the requirements of the Contract Documents, but also that the Contractor has:
  - (1)** found the layout and/or dimensions in the Submittal to be comparable with those in the Contract Documents and other relevant Submittals and has made field measurements as necessary to verify their accuracy, and

- (2) determined that products, materials, systems, equipment and/or procedures presented in the Submittal are compatible with those presented, or being presented, in other relevant Submittals and with the Contractor's intended Construction Methods.
- E. The Contractor shall not fabricate or perform any portion of the Work for which the Contract Documents require Submittals until the respective Submittals have been approved by the Architect.
- F. In the case of a resubmission, the Contractor shall direct specific attention to all revisions in a Submittal. The Architect's approval of a resubmission shall not apply to any revisions that were not brought to the Architect's attention.
- G. If the Contract Documents specify that a Submittal is to be prepared and sealed by a registered architect or licensed engineer retained by the Contractor, all drawings, calculations, specifications, and certifications of the Submittal shall bear the Alabama seal of registration and signature of the registered/licensed design professional who prepared them or under whose supervision they were prepared. The Owner and the Architect shall be entitled to rely upon the adequacy, accuracy and completeness of such a Submittal, provided that all performance and design criteria that such Submittal must satisfy are sufficiently specified in the Contract Documents. The Architect will review, approve or take other appropriate action on such a Submittal 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 specified in the Contract Documents.

#### **H. DEVIATIONS**

- (1) The Architect is authorized by the Owner to approve "minor" deviations from the requirements of the Contract Documents. "Minor" deviations are defined as those which are in the interest of the Owner, do not materially alter the quality or performance of the finished Work, and do not affect the cost or time of performance of the Work. Deviations which are not "minor" may be authorized only by the Owner through the Change Order procedures of Article 19.
- (2) Any deviation from the requirements of the Contract Documents contained in a Submittal shall be clearly identified as a "Deviation from Contract Requirements" (or by similar language) within the Submittal and, in a letter transmitting the Submittal to the Architect, the Contractor shall direct the Architect's attention to, and request specific approval of, the deviation. Otherwise, the Architect's approval of a Submittal does not constitute approval of deviations from the requirements of the Contract Documents contained in the Submittal.
- (3) The Contractor shall bear all costs and expenses of any changes to the Work, changes to work performed by the Owner or separate contractors, or additional services by the Architect required to accommodate an approved deviation unless the Contractor has specifically informed the Architect in writing of the required changes and a Change Order has been issued authorizing the deviation and accounting for such resulting changes and costs.

#### **I. ARCHITECT'S REVIEW and APPROVAL**

- (1) The Architect will review the Contractor's Submittals for conformance with requirements of, and the design concept expressed in, the Contract Documents and will approve or take other appropriate action upon them. This review is not intended to verify the accuracy and completeness

of details such as dimensions and quantities nor to substantiate installation instructions or performance of equipment or systems, all of which remain the responsibility of the Contractor. However, the Architect shall advise the Contractor of any errors or omissions which the Architect may detect during this review. The Architect's approval of a specific item shall not indicate approval of an assembly of which the item is a component.

(2) The Architect will review and respond to all Submittals with reasonable promptness to avoid delay in the Work or in the activities of the Owner, Contractor or separate contractors, while allowing sufficient time to permit adequate review.

(3) No corrections or changes to Submittals indicated by the Architect will be considered as authorizations to perform Extra Work. If the Contractor considers such correction or change of a Submittal to require Work which differs from the requirements of the Contract Documents, the Contractor shall promptly notify the Architect in writing in accordance with Article 20, Claims for Extra Cost or Extra Work.

**J. CONFORMANCE with SUBMITTALS**

The Work shall be constructed in accordance with approved Submittals.

**ARTICLE 10**  
**DOCUMENTS and SAMPLES at the SITE**

**A. "AS ISSUED" SET**

The Contractor shall maintain at the Project site, in good order, at least one copy of all Addenda, Change Orders, supplemental drawings, written directives and clarifications, and approved Submittals intact as issued, and an updated construction schedule.

**B. "POSTED" SET**

The Contractor shall maintain at the Project site, in good order, at least one set of the Drawings and Project Manual into which the Contractor has "posted"(incorporated) all Addenda, Change Orders, supplemental drawings, clarifications, and other information pertinent to the proper performance of the Work. The Contractor shall assure that all sets of the Drawings and Project Manuals being used by the Contractor, Subcontractors, and suppliers are "posted" with the current information to insure that updated Contract Documents are used for performance of the Work.

**C. RECORD SET**

One set of the Drawings and Project Manual described in Paragraph B shall be the Contractor's record set in which the Contractor shall record all field changes, corrections, selections, final locations, and other information as will be duplicated on the "As-built" documents required under Article 11. The Contractor shall record such "as-built" information in its record set as it becomes available through progress of the Work. The Contractor's performance of this requirement shall be subject to confirmation by the Architect at any time as a prerequisite to approval of Progress Payments.

- D. The documents and samples required by this Article to be maintained at the Project site shall be readily available to the Architect, Owner, BC Project Inspector, and their representatives.

## **ARTICLE 11**

### **“AS-BUILT” DOCUMENTS**

- A. Unless otherwise provided in the Contract Documents, the Contractor shall deliver two (2) sets of “As-built” documents, as described herein, to the Architect for submission to the Owner upon completion of the Work. Each set of “As-built” documents shall consist of a copy of the Drawings and Project Manual, in like-new condition, into which the Contractor has neatly incorporated all Addenda, Change Orders, supplemental drawings, clarifications, field changes, corrections, selections, actual locations of underground utilities, and other information as required herein or specified elsewhere in the Contract Documents.
- B. The Contractor shall use the following methods for incorporating information into the “As-built” documents:
- (1) **Drawings**
- (a) To the greatest extent practicable, information shall be carefully drawn and lettered, in ink, on the Drawings in the form of sketches, details, plans, notes, and dimensions as required to provide a fully dimensioned record of the Work. When required for clarity, sketches, details, or partial plans shall be drawn on supplemental sheets and bound into the Drawings and referenced on the drawing being revised.
  - (b) Where a revised drawing has been furnished by the Architect, the drawing of latest date shall be bound into the Drawings in the place of the superseded drawing.
  - (c) Where a supplemental drawing has been furnished by the Architect, the supplemental drawing shall be bound into the Drawings in an appropriate location and referred to by notes added to the drawing being supplemented.
  - (d) Where the Architect has furnished details, partial plans, or lengthy notes of which it would be impractical for the Contractor to redraw or letter on a drawing, such information may be affixed to the appropriate drawing with transparent tape if space is available on the drawing.
  - (e) Any entry of information made in the Drawings that is the result of an Addendum or Change Order, shall identify the Addendum or Change Order from which it originated.
- (2) **Project Manual**
- (a) A copy of all Addenda and Change Orders, excluding drawings thereof, shall be bound in the front of the Project Manual.
  - (b) Where a document, form, or entire specification section is revised, the latest issue shall be bound into the Project Manual in the place of the superseded issue.
  - (c) Where information within a specification section is revised, the deleted or revised information shall be drawn through in ink and an adjacent note added identifying the Addendum or Change Order containing the revised information.
- C. Within ten days after the Date of Substantial Completion of the Work, or the last completed portion of the Work, the Contractor shall submit the “As-built” documents to the Architect for approval. If the Architect requires that any corrections be made, the documents will be returned in a reasonable time for correction and resubmission.



**ARTICLE 12**  
**PROGRESS SCHEDULE**

(Not applicable if the Contract Time is 60 days or less.)

- A. The Contractor shall within fifteen days after the date of commencement stated in the Notice to Proceed, or such other time as may be provided in the Contract Documents, prepare and submit to the Architect for review and approval a practicable construction schedule informing the Architect and Owner of the order in which the Contractor plans to carry on the Work within the Contract Time. The Architect's review and approval of the Contractor's construction schedule shall be only for compliance with the specified format, Contract Time, and suitability for monitoring progress of the Work and shall not be construed as a representation that the Architect has analyzed the schedule to form opinions of sequences or durations of time represented in the schedule.
- B. If a schedule format is not specified elsewhere in the Contract Documents, the construction schedule shall be prepared using ABC' Form C-11, "Progress Schedule and Report", (contained in the Project Manual) or similar format of suitable scale and detail to indicate the percentage of Work scheduled to be completed at the end of each month. At the end of each month the Contractor shall enter the actual percentage of completion on the construction schedule submit two copies to the Architect, and attach one copy to each copy of the monthly Application for Payment. The construction schedule shall be revised to reflect any agreed extensions of the Contract Time or as required by conditions of the Work.
- C. If a more comprehensive schedule format is specified elsewhere in the Contract Documents or voluntarily employed by the Contractor, ABC Form C-11 shall also be prepared, updated, and submitted as described in preceding Paragraph B.
- D. The Contractor's construction schedule shall be used by the Contractor, Architect, and Owner to determine the adequacy of the Contractor's progress. The Contractor shall be responsible for maintaining progress in accordance with the currently approved construction schedule and shall increase the number of shifts, and/or overtime operations, days of work, and/or the amount of construction plant and equipment as may be necessary to do so. If the Contractor's progress falls materially behind the currently approved construction schedule and, in the opinion of the Architect or Owner, the Contractor is not taking sufficient steps to regain schedule, the Architect may, with the Owner's concurrence, issue the Contractor a Notice to Cure pursuant to Article 27. In such a Notice to Cure the Architect may require the Contractor to submit such supplementary or revised construction schedules as may be deemed necessary to demonstrate the manner in which schedule will be regained.

**ARTICLE 13**  
**EQUIPMENT, MATERIALS, and SUBSTITUTIONS**

- A. Every part of the Work shall be executed in a workmanlike manner in accordance with the Contract Documents and approved Submittals. All materials used in the Work shall be furnished in sufficient quantities to facilitate the proper and expeditious execution of the Work and shall be new except such materials as may be expressly provided or allowed in the Contract Documents to be otherwise.

- B. Whenever a product, material, system, item of equipment, or service is identified in the Contract Documents by reference to a trade name, manufacturer's name, model number, etc.(hereinafter referred to as "source"), and only one or two sources are listed, or three or more sources are listed and followed by "or approved equal" or similar wording, it is intended to establish a required standard of performance, design, and quality, and the Contractor may submit, for the Architect's approval, products, materials, systems, equipment, or services of other sources which the Contractor can prove to the Architect's satisfaction are equal to, or exceed, the standard of performance, design and quality specified, unless the provisions of Paragraph D below apply. Such proposed substitutions are not to be purchased or installed without the Architect's written approval of the substitution.
- C. If the Contract Documents identify three or more sources for a product, material, system, item of equipment or service to be used and the list of sources is not followed by "or approved equal" or similar wording, the Contractor may make substitution only after evaluation by the Architect and execution of an appropriate Contract Change Order.
- D. If the Contract Documents identify only one source and expressly provide that it is an approved sole source for the product, material, system, item of equipment, or service, the Contractor must furnish the identified sole source.

**ARTICLE 14**  
**SAFETY and PROTECTION of PERSONS and PROPERTY**

- A. The Contractor shall be solely and completely responsible for conditions at the Project site, including safety of all persons (including employees) and property. The Contractor shall create, maintain, and supervise conditions and programs to facilitate and promote safe execution of the Work, and shall supervise the Work with the attention and skill required to assure its safe performance. Safety provisions shall conform to OSHA requirements and all other federal, state, county, and local laws, ordinances, codes, and regulations. Where any of these are in conflict, the more stringent requirement shall be followed. Nothing contained in this Contract shall be construed to mean that the Owner has employed the Architect nor has the Architect employed its consultants to administer, supervise, inspect, or take action regarding safety programs or conditions at the Project site.
- B. The Contractor shall employ Construction Methods, safety precautions, and protective measures that will reasonably prevent damage, injury or loss to:
  - (1) workers and other persons on the Project site and in adjacent and other areas that may be affected by the Contractor's operations;
  - (2) the Work and materials and equipment to be incorporated into the Work and stored by the Contractor on or off the Project site; and
  - (3) other property on, or adjacent to, the Project site, including trees, shrubs, lawns, walks, pavements, roadways, structures, utilities, and other improvements not designated in the Contract Documents to be removed, relocated, or replaced.

- C. The Contractor shall be responsible for the prompt remedy of damage and loss to property, including the filing of appropriate insurance claims, caused in whole or in part by the fault or negligence of the Contractor, a Subcontractor, or anyone for whose acts they may be liable.
- D. The Contractor shall comply with and give notices required by applicable laws, ordinances, rules, regulations and lawful orders of public authorities bearing on safety and protection of persons or property, including without limitation notices to adjoining property owners of excavation or other construction activities that potentially could cause damage or injury to adjoining property or persons thereon.
- E. The Contractor shall erect and maintain barriers, danger signs, and any other reasonable safeguards and warnings against hazards as may be required for safety and protection during performance of the Contract and shall notify owners and users of adjacent sites and utilities of conditions that may exist or arise which may jeopardize their safety.
- F. If use or storage of explosives or other hazardous materials or equipment or unusual Construction Methods are necessary for execution of the Work, the Contractor shall exercise commensurate care and employ supervisors and workers properly qualified to perform such activity.
- G. The Contractor shall furnish a qualified safety representative at the Project site whose duties shall include the prevention of accidents. The safety representative shall be the Contractor's superintendent, unless the Contractor assigns this duty to another responsible member of its on-site staff and notifies the Owner and Architect in writing of such assignment.
- H. The Contractor shall not permit a load to be applied, or forces introduced, to any part of the construction or site that may cause damage to the construction or site or endanger safety of the construction, site, or persons on or near the site.
- I. The Contractor shall have the right to act as it deems appropriate in emergency situations jeopardizing life or property. The Contractor shall be entitled to equitable adjustment of the Contract Sum or Contract Time for its efforts expended for the sole benefit of the Owner in an emergency. Such adjustment shall be determined as provided in Articles 19 and 20.
- J. The duty of the Architect and the Architect's consultants to visit the Project site to conduct periodic inspections of the Work or for other purposes shall not give rise to a duty to review or approve the adequacy of the Contractor's safety program, safety supervisor, or any safety measure which Contractor takes or fails to take in, on, or near the Project site.

## **ARTICLE 15**

### **HAZARDOUS MATERIALS**

- A. A Hazardous Material is any substance or material identified as hazardous under any federal, state, or local law or regulation, or any other substance or material which may be considered hazardous or otherwise subject to statutory or regulatory requirements governing its handling, disposal, and/or clean-up. Existing Hazardous Materials are Hazardous Materials discovered at the Project site and not introduced to the Project site by the Contractor, a Subcontractor, or anyone for whose acts they may be liable.

- B. If, during the performance of the Work, the Contractor encounters a suspected Existing Hazardous Material, the Contractor shall immediately stop work in the affected area, take measures appropriate to the condition to keep people away from the suspected Existing Hazardous Material, and immediately notify the Architect and Owner of the condition in writing.
- C. The Owner shall obtain the services of an independent laboratory or professional consultant, appropriately licensed and qualified, to determine whether the suspected material is a Hazardous Material requiring abatement and, if so, to certify after its abatement that it has been rendered harmless. Any abatement of Existing Hazardous Materials will be the responsibility of the Owner. The Owner will advise the Contractor in writing of the persons or entities who will determine the nature of the suspected material and those who will, if necessary, perform the abatement. The Owner will not employ persons or entities to perform these services to whom the Contractor or Architect has reasonable objection.
- D. After certification by the Owner's independent laboratory or professional consultant that the material is harmless or has been rendered harmless, work in the affected area shall resume upon written agreement between the Owner and Contractor. If the material is found to be an Existing Hazardous Material and the Contractor incurs additional cost or delay due to the presence and abatement of the material, the Contract Sum and/or Contract Time shall be appropriately adjusted by a Contract Change Order pursuant to Article 19.
- E. The Owner shall not be responsible for Hazardous Materials introduced to the Project site by the Contractor, a Subcontractor, or anyone for whose acts they may be liable unless such Hazardous Materials were required by the Contract Documents.

## **ARTICLE 16**

### **INSPECTION of the WORK**

#### **A. GENERAL**

(1) The Contractor is solely responsible for the Work's compliance with the Contract Documents; therefore, the Contractor shall be responsible to inspect in-progress and completed Work, and shall verify its compliance with the Contract Documents and that any element or portion of the Work upon which subsequent Work is to be applied or performed is in proper condition to receive the subsequent Work. Neither the presence nor absence of inspections by the Architect, Owner, Director, BC Project Inspector, any public authority having jurisdiction, or their representatives shall relieve the Contractor of responsibility to inspect the Work, for responsibility for Construction Methods and safety precautions and programs in connection with the Work, or from any other requirement of the Contract Documents.

(2) The Architect, Owner, Director, BC Project Inspector, any public authority having jurisdiction, and their representatives shall have access at all times to the Work for inspection whenever it is in preparation or progress, and the Contractor shall provide proper facilities for such access and inspection. All materials, workmanship, processes of manufacture, and methods of construction, if not otherwise stipulated in the Contract Documents, shall be subject to inspection, examination, and test at any and all places where such manufacture and/or construction are being carried on. Such inspections will not unreasonably interfere with the Contractor's operations.

(3) The Architect will inspect the Work as a representative of the Owner. The Architect's inspections may be supplemented by inspections by the BC Project Inspector as a representative of the Alabama Building Commission.

(4) The Contractor may be charged by the Owner for any extra cost of inspection incurred by the Owner or Architect on account of material and workmanship not being ready at the time of inspection set by the Contractor.

## **B. TYPES of INSPECTIONS**

(1) **SCHEDULED INSPECTIONS and CONFERENCES.** Scheduled Inspections and Conferences are conducted by the Architect, scheduled by the Architect in coordination with the Contractor and BC Project Inspector, and are attended by the Contractor and applicable Subcontractors, suppliers and manufacturers, and the BC Project Inspector. Scheduled Inspections and Conferences of this Contract include:

(a) **Pre-construction Conference.**

(b) **Pre-roofing Conference** (not applicable if the Contract involves no roofing work)

(c) **Above Ceiling Inspection(s):** An above ceiling inspection of all spaces in the building is required before the ceiling material is installed. Above ceiling inspections are to be conducted at a time when all above ceiling systems are complete and tested to the greatest extent reasonable pending installation of the ceiling material. System identifications and markings are to be complete. All fire-rated construction including fire-stopping of penetrations and specified identification above the ceiling shall be complete. Ceiling framing and suspension systems shall be complete with lights, grilles and diffusers, access panels, fire protection drops for sprinkler heads, etc., installed in their final locations to the greatest extent reasonable. Above ceiling framing to support ceiling mounted equipment shall be complete. The above ceiling construction shall be complete to the extent that after the inspection the ceiling material can be installed without disturbance.

(d) **Final Inspection(s):** A Final Inspection shall establish that the Work, or a designated portion of the Work, is Substantially Complete in accordance with Article 32 and is accepted by the Architect, Owner, and BC Project Inspector as being ready for the Owner's occupancy or use. At the conclusion of this inspection, items requiring correction or completion ("punch list" items) shall be minimal and require only a short period of time for accomplishment to establish Final Acceptance of the Work. If the Work, or designated portion of the Work, includes the installation, or modification, of a fire alarm system or other life safety systems essential to occupancy, such systems shall have been tested and appropriately certified before the Final Inspection.

(e) **Year-end Inspection(s):** An inspection of the Work, or each separately completed portion thereof, is required near the end of the Contractor's one year warranty period(s). The subsequent delivery of the Architect's report of this inspection will serve as confirmation that the Contractor was notified of Defective Work found within the warranty period in accordance with Article 35.

(2) **PERIODIC INSPECTIONS.** Periodic Inspections are conducted throughout the course of the Work by the Architect, the Architect's consultants, their representatives, and the BC Project Inspector, jointly or independently, with or without advance notice to the Contractor.

**(3) SPECIFIED INSPECTIONS and TESTS.** Specified Inspections and Tests include inspections, tests, demonstrations, and approvals that are either specified in the Contract Documents or required by laws, ordinances, rules, regulations, or orders of public authorities having jurisdiction, to be performed by the Contractor, one of its Subcontractors, or an independent testing laboratory or firm (whether paid for by the Contractor or Owner).

**C. INSPECTIONS by the ARCHITECT**

**(1)** The Architect is not authorized to revoke, alter, relax, or waive any requirements of the Contract Documents (other than “minor” deviations as defined in Article 9 and “minor” changes as defined in Article 19), to finally approve or accept any portion of the Work or to issue instructions contrary to the Contract Documents without concurrence of the Owner.

**(2)** The Architect will visit the site at intervals appropriate to the stage of the Contractor’s operations and as otherwise necessary to:

- (a)** become generally familiar with the in-progress and completed Work and the quality of the Work,
- (b)** determine whether the Work is progressing in general accordance with the Contractor’s schedule and is likely to be completed within the Contract Time,
- (c)** visually compare readily accessible elements of the Work to the requirements of the Contract Documents to determine, in general, if the Contractor’s performance of the Work indicates that the Work will conform to the requirements of the Contract Documents when completed,
- (d)** endeavor to guard the Owner against Defective Work,
- (e)** review and address with the Contractor any problems in implementing the requirements of the Contract Documents that the Contractor may have encountered, and
- (f)** keep the Owner fully informed about the Project.

**(3)** The Architect shall have the authority to reject Defective Work or require its correction, but shall not be required to make exhaustive investigations or examinations of the in-progress or completed portions of the Work to expose the presence of Defective Work. However, it shall be an obligation of the Architect to report in writing, to the Owner, Contractor, and BC Project Inspector, any Defective Work recognized by the Architect.

**(4)** The Architect shall have the authority to require the Contractor to stop work only when, in the Architect’s reasonable opinion, such stoppage is necessary to avoid Defective Work. The Architect shall not be liable to the Contractor or Owner for the consequences of any decisions made by the Architect in good faith either to exercise or not to exercise this authority.

**(5)** “Inspections by the Architect” includes appropriate inspections by the Architect’s consultants as dictated by their respective disciplines of design and the stage of the Contractor’s operations.

**D. INSPECTIONS by the BC PROJECT INSPECTOR**

**(1)** The BC Project Inspector will:

- (a)** participate in scheduled inspections and conferences as practicable,
- (b)** perform periodic inspections of in-progress and completed Work to ensure code compliance of the Project and general conformance of the Work with the Contract Documents,

and

(c) monitor the Contractor's progress and performance of the Work.

(2) The BC Project Inspector shall have the authority to:

(a) reject Work that is not in compliance with the State Building Code adopted by the Commission, unless the Work is in accordance with the Contract Documents in which case the BC Project Inspector will advise the Architect to initiate appropriate corrective action, and

(b) notify the Architect, Owner, and Contractor of Defective Work recognized by the BC Project Inspector.

(3) The BC Project Inspector's periodic inspections will usually be scheduled around key stages of construction based upon information reported by the Architect. As the Architect or Owner deems appropriate, the BC Project Inspector, as well as other members of the Technical Staff, can be requested to schedule special inspections or meetings to address specific matters. The written findings of BC Project Inspector will be transmitted to the Owner, Contractor, and Architect.

(4) The BC Project Inspector is not authorized to revoke, alter, relax, or waive any requirements of the Contract Documents, to finally approve or accept any portion of the Work or to issue instructions contrary to the Contract Documents without concurrence of the Owner. The Contractor shall not proceed with Work as a result of instructions or findings of the BC Project Inspector which the Contractor considers to be a change to the requirements of the Contract Documents without written authorization of the Owner through the Architect.

#### **E. UNCOVERING WORK**

(1) If the Contractor covers a portion of the Work before it is examined by the Architect and this is contrary to the Architect's request or specific requirements in the Contract Documents, then, upon written request of the Architect, the Work must be uncovered for the Architect's examination and be replaced at the Contractor's expense without change in the Contract Time.

(2) Without a prior request or specific requirement that Work be examined by the Architect before it is covered, the Architect may request that Work be uncovered for examination and the Contractor shall uncover it. If the Work is in accordance with the Contract Documents, the Contract Sum shall be equitably adjusted under Article 19 to compensate the Contractor for the costs of uncovering and replacement. If the Work is not in accordance with the Contract Documents, uncovering, correction, and replacement 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.

#### **F. SPECIFIED INSPECTIONS and TESTS**

(1) The Contractor shall schedule and coordinate Specified Inspections and Tests to be made at appropriate times so as not to delay the progress of the Work or the work of the Owner or separate contractors. If the Contract Documents require that a Specified Inspection or Test be witnessed or attended by the Architect or Architect's consultant, the Contractor shall give the Architect timely notice of the time and place of the Specified Inspection or Test. If a Specified Inspection or Test reveals that Work is not in compliance with requirements of the Contract Documents, the Contractor shall bear the costs of correction, repeating the Specified Inspection or Test, and any

related costs incurred by the Owner, including reasonable charges, if any, by the Architect for additional services. Through appropriate Contract Change Order the Owner shall bear costs of tests, inspections or approvals which become Contract requirements subsequent to the receipt of bids.

(2) If the Architect, Owner, or public authority having jurisdiction determines that inspections, tests, demonstrations, or approvals in addition to Specified Inspections and Tests are required, the Contractor shall, upon written instruction from the Architect, arrange for their performance by an entity acceptable to the Owner, giving timely notice to the architect of the time and place of their performance. Related costs shall be borne by the Owner unless the procedures reveal that Work is not in compliance with requirements of the Contract Documents, in which case the Contractor shall bear the costs of correction, repeating the procedures, and any related costs incurred by the Owner, including reasonable charges, if any, by the Architect for additional services.

(3) Unless otherwise required by the Contract Documents, required certificates of Specified Inspections and Tests shall be secured by the Contractor and promptly delivered to the Architect.

(4) Failure of any materials to pass Specified Inspections and Tests will be sufficient cause for refusal to consider any further samples of the same brand or make of that material for use in the Work.

## **ARTICLE 17**

### **CORRECTION of DEFECTIVE WORK**

- A. The Contractor shall, at the Contractor's expense, promptly correct Defective Work rejected by the Architect or which otherwise becomes known to the Contractor, removing the rejected or nonconforming materials and construction from the project site.
- B. Correction of Defective Work shall be performed in such a timely manner as will avoid delay of completion, use, or occupancy of the Work and the work of the Owner and separate contractors.
- C. The Contractor shall bear all expenses related to the correction of Defective Work, including but not limited to: (1) additional testing and inspections, including repeating Specified Inspections and Tests, (2) reasonable services and expenses of the Architect, and (3) the expense of making good all work of the Contractor, Owner, or separate contractors destroyed or damaged by the correction of Defective Work.

## **ARTICLE 18**

### **DEDUCTIONS for UNCORRECTED WORK**

If the Owner deems it advisable and in the Owner's interest to accept Defective Work, the Owner may allow part or all of such Work to remain in place, provided an equitable deduction from the Contract Sum, acceptable to the Owner, is offered by the Contractor.



**ARTICLE 19**  
**CHANGES in the WORK**

**A. GENERAL**

(1) The Owner may at any time direct the Contractor to make changes in the Work which are within the general scope of the Contract, including changes in the Drawings, Specifications, or other portions of the Contract Documents to add, delete, or otherwise revise portions of the Work. The Architect is authorized by the Owner to direct “minor” changes in the Work by written order to the Contractor. “Minor” changes in the Work are defined as those which are in the interest of the Owner, do not materially alter the quality or performance of the finished Work, and do not affect the cost or time of performance of the Work. Changes in the Work which are not “minor” may be authorized only by the Owner.

(2) If the Owner directs a change in the Work, the change shall be incorporated into the Contract by a Contract Change Order prepared by the Architect and signed by the Contractor, Owner, and other signatories to the Construction Contract, stating their agreement upon the change or changes in the Work and the adjustments, if any, in the Contract Sum and the Contract Time.

(3) Subject to compliance with Alabama’s Public Works Law, the Owner may, upon agreement by the Contractor, incorporate previously unawarded bid alternates into the Contract.

(4) In the event of a claim or dispute as to the appropriate adjustment to the Contract Sum or Contract Time due to a directive to make changes in the Work, the Work shall proceed as provided in this article subject to subsequent agreement of the parties or final resolution of the dispute pursuant to Article 24.

(5) Consent of surety will be obtained for all Contract Change Orders involving an increase in the Contract Sum.

(6) Changes in the Work shall be performed under applicable provisions of the Contract Documents and the Contractor shall proceed promptly to perform changes in the Work, unless otherwise directed by the Owner through the Architect.

**B. DETERMINATION of ADJUSTMENT of the CONTRACT SUM**

The adjustment of the Contract Sum resulting from a change in the Work shall be determined by one of the following methods, or a combination thereof, as selected by the Owner:

(1) **Lump Sum.** By mutual agreement to a lump sum based on or negotiated from an itemized cost proposal from the Contractor. Additions to the Contract Sum shall include the Contractor’s direct costs plus a maximum 15% markup for overhead and profit. Where subcontract work is involved the total mark-up for the Contractor and a Subcontractor shall not exceed 25%. No allowance for overhead and profit shall be figured on a change which involves a net credit to the Owner. For the purposes of this method of determining an adjustment of the Contract Sum, “overhead” shall cover the Contractor’s indirect costs of the change, such as the cost of bonds, superintendent and other job office personnel, watchman, job office, job office supplies and expenses, temporary facilities and utilities, and home office expenses.

**(2) Unit Price.** By application of Unit Prices included in the Contract or subsequently agreed to by the parties. However, if the character or quantity originally contemplated is materially changed so that application of such unit price to quantities of Work proposed will cause substantial inequity to either party, the applicable unit price shall be equitably adjusted.

**(3) Force Account.** By directing the Contractor to proceed with the change in the Work on a “force account” basis under which the Contractor shall be reimbursed for reasonable expenditures incurred by the Contractor and its Subcontractors in performing added Work and the Owner shall receive reasonable credit for any deleted Work. The Contractor shall keep and present, in such form as the Owner may prescribe, an itemized accounting of the cost of the change together with sufficient supporting data. Unless otherwise stated in the directive, the adjustment of the Contract Sum shall be limited to the following:

- (a) costs of labor and supervision, including employee benefits, social security, retirement, unemployment and workers’ compensation insurance required by law, agreement, or under Contractor’s or Subcontractor’s standard personnel policy;
- (b) cost of materials, supplies and equipment, including cost of delivery, whether incorporated or consumed;
- (c) rental cost of machinery and equipment, not to exceed prevailing local rates if contractor-owned;
- (d) costs of premiums for insurance required by the Contract Documents, permit fees, and sales, use or similar taxes related to the change in the Work;
- (e) reasonable credits to the Owner for the value of deleted Work, without Contractor or Subcontractor mark-ups; and
- (f) for additions to the Contract Sum, mark-up of the Contractor’s direct costs for overhead and profit not exceeding 15% on Contractor’s work nor exceeding 25% for Contractor and Subcontractor on a Subcontractor’s work. No allowance for overhead and profit shall be figured on a change which involves a net credit to the Owner. For the purposes of this method of determining an adjustment of the Contract Sum, “overhead” shall cover the Contractor’s indirect costs of the change, such as the cost of insurance other than mentioned above, bonds, superintendent and other job office personnel, watchman, use and rental of small tools, job office, job office supplies and expenses, temporary facilities and utilities, and home office expenses.

**C. ADJUSTMENT of the CONTRACT TIME due to CHANGES**

**(1)** Unless otherwise provided in the Contract Documents, the Contract Time shall be equitably adjusted for the performance of a change provided that the Contractor notifies the Architect in writing that the change will increase the time required to complete the Work. Such notice shall be provided no later than:

- (a) with the Contractor’s cost proposal stating the number of days of extension requested, or
- (b) within ten days after the Contractor receives a directive to proceed with a change in advance of submitting a cost proposal, in which case the notice should provide an estimated number of days of extension to be requested, which may be subject to adjustment in the cost proposal.

**(2)** The Contract Time shall be extended only to the extent that the change affects the time required to complete the entire Work of the Contract, taking into account the concurrent performance of the changed and unchanged Work.

**D. CHANGE ORDER PROCEDURES**

(1) If the Owner proposes to make a change in the Work, the Architect will request that the Contractor provide a cost proposal for making the change to the Work. The request shall be in writing and shall adequately describe the proposed change using drawings, specifications, narrative, or a combination thereof. Within 21 days after receiving such a request, or such other time as may be stated in the request, the Contractor shall prepare and submit to the Architect a written proposal, properly itemized and supported by sufficient substantiating data to facilitate evaluation. The stated time within which the Contractor must submit a proposal may be extended if, within that time, the Contractor makes a written request with reasonable justification thereof.

(2) The Contractor may voluntarily offer a change proposal which, in the Contractor's opinion, will reduce the cost of construction, maintenance, or operation or will improve the cost-effective performance of an element of the Project, in which case the Owner, through the Architect, will accept, reject, or respond otherwise within 21 days after receipt of the proposal, or such other reasonable time as the Contractor may state in the proposal.

(3) If the Contractor's proposal is acceptable to the Owner, or is negotiated to the mutual agreement of the Contractor and Owner, the Architect will prepare an appropriate Contract Change Order for execution. Upon receipt of the fully executed Contract Change Order, the Contractor shall proceed with the change.

(4) In advance of delivery of a fully executed Contract Change Order, the Architect may furnish to the Contractor a written authorization to proceed with an agreed change. However, such an authorization shall be effective only if it:

- (a) identifies the Contractor's accepted or negotiated proposal for the change,
- (b) states the agreed adjustments, if any, in Contract Sum and Contract Time,
- (c) states that funds are available to pay for the change, and
- (d) is signed by the Owner.

(5) If the Contractor and Owner cannot agree on the amount of the adjustment in the Contract Sum for a change, the Owner, through the Architect, may order the Contractor to proceed with the change on a Force Account basis, but the net cost to the Owner shall not exceed the amount quoted in the Contractor's proposal. Such order shall state that funds are available to pay for the change.

(6) If the Contractor does not promptly respond to a request for a proposal, or the Owner determines that the change is essential to the final product of the Work and that the change must be effected immediately to avoid delay of the Project, the Owner may:

- (a) determine with the Contractor a sufficient maximum amount to be authorized for the change and
- (b) direct the Contractor to proceed with the change on a Force Account basis pending delivery of the Contractor's proposal, stating the maximum increase in the Contract Sum that is authorized for the change.

(7) Pending agreement of the parties or final resolution of any dispute of the total amount due the Contractor for a change in the Work, amounts not in dispute for such changes in the Work may be included in Applications for Payment accompanied by an interim Change Order indicating the

parties' agreement with part of all of such costs or time extension. Once a dispute is resolved, it shall be implemented by preparation and execution of an appropriate Change Order.

## **ARTICLE 20**

### **CLAIMS for EXTRA COST or EXTRA WORK**

- A. If the Contractor considers any instructions by the Architect, Owner, BC Project Inspector, or public authority having jurisdiction to be contrary to the requirements of the Contract Documents and will involve extra work and/or cost under the Contract, the Contractor shall give the Architect written notice thereof within ten days after receipt of such instructions, and in any event before proceeding to execute such work. As used in this Article, "instructions" shall include written or oral clarifications, directions, instructions, interpretations, or determinations.
- B. The Contractor's notification pursuant to Paragraph 20.A shall state: (1) the date, circumstances, and source of the instructions, (2) that the Contractor considers the instructions to constitute a change to the Contract Documents and why, and (3) an estimate of extra cost and time that may be involved to the extent an estimate may be reasonably made at that time.
- C. Except for claims relating to an emergency endangering life or property, no claim for extra cost or extra work shall be considered in the absence of prior notice required under Paragraph 20.A.
- D. Within ten days of receipt of a notice pursuant to Paragraph 20.A, the Architect will respond in writing to the Contractor, stating one of the following:
  - (1) The cited instruction is rescinded.
  - (2) The cited instruction is a change in the Work and in which manner the Contractor is to proceed with procedures of Article 19, Changes in the Work.
  - (3) The cited instruction is reconfirmed, is not considered by the Architect to be a change in the Contract Documents, and the Contractor is to proceed with Work as instructed.
- E. If the Architect's response to the Contractor is as in Paragraph 20.D(3), the Contractor shall proceed with the Work as instructed. If the Contractor continues to consider the instructions to constitute a change in the Contract Documents, the Contractor shall, within ten days after receiving the Architect's response, notify the Architect in writing that the Contractor intends to submit a claim pursuant to Article 24, Resolution of Claims and Disputes

## **ARTICLE 21**

### **DIFFERING SITE CONDITIONS**

#### **A. DEFINITION**

**"Differing Site Conditions" are:**

- (1) subsurface or otherwise concealed physical conditions at the Project site which differ materially from those indicated in the Contract Documents, or

- (2) unknown physical conditions at the Project site which are of an unusual nature, differing materially from conditions ordinarily encountered and generally recognized as inherent in construction activities of the character required by the Contract Documents.

## **B. PROCEDURES**

If Differing Site Conditions are encountered, then the party discovering the condition shall promptly notify the other party before the condition is disturbed and in no event later than ten days after discovering the condition. Upon such notice and verification that a Differing Site Condition exists, the Architect will, with reasonable promptness and with the Owner's concurrence, make changes in the Drawings and/or Specifications as are deemed necessary to conform to the Differing Site Condition. Any increase or decrease in the Contract Sum or Contract Time that is warranted by the changes will be made as provided under Article 19, Changes in the Work. If the Architect determines a Differing Site Condition has not been encountered, the Architect shall notify the Owner and Contractor in writing, stating the reason for that determination.

## **ARTICLE 22 CLAIMS for DAMAGES**

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 after the discovery. The notice shall provide sufficient detail to enable the other party to investigate the matter.

## **ARTICLE 23 DELAYS**

- A. A delay beyond the Contractor's control at any time in the commencement or progress of Work by an act or omission of the Owner, Architect, or any separate contractor or by labor disputes, unusual delay in deliveries, unavoidable casualties, fires, abnormal floods, tornadoes, or other cataclysmic events of nature, may entitle the Contractor to an extension of the Contract Time provided, however, that the Contractor shall, within ten days after the delay first occurs, give written notice to the Architect of the cause of the delay and its probable effect on progress of the entire Work.
- B. Adverse weather conditions that are more severe than anticipated for the locality of the Work during any given month may entitle the Contractor to an extension of Contract Time provided, however;
  - (1) the weather conditions had an adverse effect on construction scheduled to be performed during the period in which the adverse weather occurred, which in reasonable sequence would have an effect on completion of the entire Work,
  - (2) the Contractor shall, within twenty-one days after the end of the month in which the delay occurs, give the Architect written notice of the delay that occurred during that month and its probable effect on progress of the Work, and

- (3) within a reasonable time after giving notice of the delay, the Contractor provides the Architect with sufficient data to document that the weather conditions experienced were unusually severe for the locality of the Work during the month in question. Unless otherwise provided in the Contract Documents, data documenting unusually severe weather conditions shall compare actual weather conditions to the average weather conditions for the month in question during the previous five years as recorded by the National Oceanic and Atmospheric Administration (NOAA) or similar record-keeping entities.
- C. Adjustments, if any, of the Contract Time pursuant to this Article shall be incorporated into the Contract by a Contract Change Order prepared by the Architect and signed by the Contractor, Owner, and other signatories to the Construction Contract or, at closeout of the Contract, by mutual written agreement between the Contractor and Owner. The adjustment of the Contract Time shall not exceed the extent to which the delay extends the time required to complete the entire Work of the Contract.
- D. The Contractor shall not be entitled to any adjustment of the Contract Sum for damage due to delays claimed pursuant to this Article unless the delay was caused by the Owner or Architect and was either:
  - (1) the result of bad faith or active interference or
  - (2) beyond the contemplation of the parties and not remedied within a reasonable time after notification by the Contractor of its presence.

## **ARTICLE 24**

### **RESOLUTION of CLAIMS and DISPUTES**

#### **A. APPLICABILITY of ARTICLE**

- (1) As used in this Article, "Claims and Disputes" include claims or disputes asserted by the Contractor, its Surety, or Owner arising out of or related to the Contract, or its breach, including without limitation claims seeking, under the provisions of the Contract, equitable adjustment of the Contract Sum or Contract Time and claims and disputes arising between the Contractor (or its Surety) and Owner regarding interpretation of the Contract Documents, performance of the Work, or breach of or compliance with the terms of the Contract.
- (2) "Resolution" addressed in this Article applies only to Claims and Disputes arising between the Contractor (or its Surety) and Owner and asserted after execution of the Construction Contract and prior to the date upon which final payment is made. Upon making application for final payment the Contractor may reserve the right to subsequent Resolution of existing Claims by including a list of all Claims, in stated amounts, which remain to be resolved and specifically excluding them from any release of claims executed by the Contractor, and in that event Resolution may occur after final payment is made.

#### **B. CONTINUANCE of PERFORMANCE**

An unresolved Claim or Dispute shall not be just cause for the Contractor to fail or refuse to proceed diligently with performance of the Contract or for the Owner to fail or refuse to continue to make payments in accordance with the Contract Documents.

**C. GOOD FAITH EFFORT to SETTLE**

The Contractor and Owner agree that, upon the assertion of a Claim by the other, they will make a good faith effort, with the Architect's assistance and advice, to achieve mutual resolution of the Claim. If mutually agreed, the Contractor and Owner may endeavor to resolve a Claim through mediation. If efforts to settle are not successful, the Claim shall be resolved in accordance with paragraph D or E below, whichever applies.

**D. FINAL RESOLUTION for STATE-FUNDED CONTRACTS**

(1) If the Contract is funded in whole or in part with state funds, the final Resolution of Claims and Disputes which cannot be resolved by the Contractor (or its Surety) and Owner shall be by the Director, whose decision shall be final, binding, and conclusive upon the Contractor, its Surety, and the Owner.

(2) When it becomes apparent to the party asserting a Claim (the Claimant) that an impasse to mutual resolution has been reached, the Claimant may request in writing to the Director that the Claim be resolved by decision of the Director. Such request by the Contractor (or its Surety) shall be submitted through the Owner. Should the Owner fail or refuse to submit the Contractor's request within ten days of receipt of same, the Contractor may forward such request directly to the Director. Upon receipt of a request to resolve a Claim, the Director will instruct the parties as to procedures to be initiated and followed.

(3) If the respondent to a Claim fails or refuses to participate or cooperate in the Resolution procedures to the extent that the Claimant is compelled to initiate legal proceedings to induce the Respondent to participate or cooperate, the Claimant will be entitled to recover, and may amend its Claim to include, the expense of reasonable attorney's fees so incurred.

**E. FINAL RESOLUTION for LOCALLY-FUNDED CONTRACTS**

If the Contract is funded in whole with funds provided by a city or county board of education or other local governmental authority and the Contract Documents do not stipulate a binding alternative dispute resolution method, the final resolution of Claims and Disputes which cannot be resolved by the Contractor (or its Surety) and Owner may be by any legal remedy available to the parties. Alternatively, upon the written agreement of the Contractor (or its Surety) and the Owner, final Resolution of Claims and Disputes may be by submission to binding arbitration before a neutral arbitrator or panel or by submission to the Director in accordance with preceding Paragraph D.

**ARTICLE 25**  
**OWNER'S RIGHT to CORRECT DEFECTIVE WORK**

If the Contractor fails or refuses to correct Defective Work in a timely manner that will avoid delay of completion, use, or occupancy of the Work or work by the Owner or separate contractors, the Architect may give the Contractor written Notice to Cure the Defective Work within a reasonable, stated time. If within ten days after receipt of the Notice to Cure the Contractor has not proceeded and satisfactorily

continued to cure the Defective Work or provided the Architect with written verification that satisfactory positive action is in process to cure the Defective Work, the Owner may, without prejudice to any other remedy available to the Owner, correct the Defective Work and deduct the actual cost of the correction from payment then or thereafter due to the Contractor.

**ARTICLE 26**  
**OWNER'S RIGHT to STOP or SUSPEND the WORK**

**A. STOPPING the WORK for CAUSE**

If the Contractor fails to correct Defective Work or persistently fails to carry out Work in accordance with the Contract Documents, the Owner may direct the Contractor in writing to stop the Work, or any part of the Work, until the cause for the Owner's directive has been eliminated; however, the Owner's right to stop the Work shall not be construed as a duty of the Owner to be exercised for the benefit of the Contractor or any other person or entity.

**B. SUSPENSION by the OWNER for CONVENIENCE**

(1) The Owner may, at any time and without cause, direct the Contractor in writing to suspend, delay or interrupt the Work, or any part of the Work, for a period of time as the Owner may determine.

(2) The Contract Sum and Contract Time shall be adjusted, pursuant to Article 19, for reasonable increases in the cost and time caused by an Owner-directed suspension, delay or interruption of Work for the Owner's convenience. However, no adjustment to the Contract Sum shall be made to the extent that the same or concurrent Work is, was or would have been likewise suspended, delayed or interrupted for other reasons not caused by the Owner.

**ARTICLE 27**  
**OWNER'S RIGHT to TERMINATE CONTRACT**

**A. TERMINATION by the OWNER for CAUSE**

(1) **Causes:** The Owner may terminate the Contractor's right to complete the Work, or any designated portion of the Work, if the Contractor:

- (a) should be adjudged bankrupt, or should make a general assignment for the benefit of the Contractor's creditors, or if a receiver should be appointed on account of the Contractor's insolvency to the extent termination for these reasons is permissible under applicable law;
- (b) refuses or fails to prosecute the Work, or any part of the Work, with the diligence that will insure its completion within the Contract Time, including any extensions, or fails to complete the Work within the Contract Time;
- (c) refuses or fails to perform the Work, including prompt correction of Defective Work, in a manner that will insure that the Work, when fully completed, will be in accordance with the Contract Documents;
- (d) fails to pay for labor or materials supplied for the Work or to pay Subcontractors in accordance with the respective Subcontract;



- (e) persistently disregards laws, ordinances, or rules, regulations or orders of a public authority having jurisdiction, or the instructions of the Architect or Owner; or
- (f) is otherwise guilty of a substantial breach of the Contract.

**(2) Procedure for Unbonded Construction Contracts (Generally, contracts less than \$50,000):**

- (a) **Notice to Cure:** In the presence of any of the above conditions the Architect may give the Contractor written notice to cure the condition within a reasonable, stated time, but not less than ten days after the Contractor receives the notice.
- (b) **Notice of Termination:** If, at the expiration of the time stated in the Notice to Cure, the Contractor has not proceeded and satisfactorily continued to cure the condition or provided the Architect with written verification that satisfactory positive action is in process to cure the condition, the Owner may, without prejudice to any other rights or remedies of the Owner, give the Contractor written notice that the Contractor's right to complete the Work, or a designated portion of the Work, shall terminate seven days after the Contractor's receipt of the written Notice of Termination.
- (c) If the Contractor satisfies a Notice to Cure, but the condition for which the notice was first given reoccurs, the Owner may give the Contractor a seven day Notice of Termination without giving the Contractor another Notice to Cure.
- (d) At the expiration of the seven days of the termination notice, the Owner may:
  - .1 take possession of the site, of all materials and equipment stored on and off site, and of all Contractor-owned tools, construction equipment and machinery, and facilities located at the site, and
  - .2 finish the Work by whatever reasonable method the Owner may deem expedient.
- (e) The Contractor shall not be entitled to receive further payment under the Contract until the Work is completed.
- (f) If the Owner's cost of completing the Work, including correction of Defective Work, compensation for additional architectural, engineering, managerial, and administrative services, and reasonable attorneys' fees due to the default and termination, is less than the unpaid balance of the Contract Sum, the excess balance less liquidated damages for delay shall be paid to the Contractor. If such cost to the Owner including attorney's fees, plus liquidated damages, exceeds the unpaid balance of the Contract Sum, the Contractor shall pay the difference to the Owner. Final Resolution of any claim or Dispute involving the termination or any amount due any party as a result of the termination shall be pursuant to Article 24.
- (g) Upon the Contractor's request, the Owner shall furnish to the Contractor a detailed accounting of the Owner's cost of completing the Work.

**(3) Procedure for Bonded Construction Contracts (Generally, contracts over \$50,000):**

- (a) **Notice to Cure:** In the presence of any of the above conditions the Architect may give the Contractor and its Surety written Notice to Cure the condition within a reasonable, stated time, but not less than ten days after the Contractor receives the notice.
- (b) **Notice of Termination:** If, at the expiration of the time stated in the Notice to Cure, the Contractor has not proceeded and satisfactorily continued to cure the condition or provided the Architect with written verification that satisfactory positive action is in process to cure the condition, the Owner may, without prejudice to any other rights or remedies of the Owner, give the Contractor and its Surety written notice declaring the Contractor to be in default under the Contract and stating that the Contractor's right to complete the Work, or a designated portion of the Work, shall terminate seven days after the Contractor's receipt of the

written Notice of Termination.

(c) If the Contractor satisfies a Notice to Cure, but the condition for which the notice was first given reoccurs, the Owner may give the Contractor a Notice of Termination without giving the Contractor another Notice to Cure.

(d) **Demand on the Performance Bond:** With the Notice of Termination the Owner shall give the Surety a written demand that, upon the effective date of the Notice of Termination, the Surety promptly fulfill its obligation to take charge of and complete the Work in accordance with the terms of the Performance Bond.

(e) **Surety Claims:** Upon receiving the Owner's demand on the Performance Bond, the Surety shall assume all rights and obligations of the Contractor under the Contract. However, the Surety shall also have the right to assert "Surety Claims" to the Owner, which are defined as claims relating to acts or omissions of the Owner or Architect prior to termination of the Contractor which may have prejudiced its rights as Surety or its interest in the unpaid balance of the Contract Sum. If the Surety wishes to assert a Surety Claim, it shall give the Owner, through the Architect, written notice within twenty-one days after first recognizing the condition giving rise to the Surety Claim. The Surety Claim shall then be submitted to the Owner, through the Architect, no later than sixty days after giving notice thereof, but no such Surety Claims shall be considered if submitted after the date upon which final payment becomes due. Final resolution of Surety Claims shall be pursuant to Article 24, Resolution of Claims and Disputes. The presence or possibility of a Surety Claim shall not be just cause for the Surety to fail or refuse to take charge of and complete the Work or for the Owner to fail or refuse to continue to make payments in accordance with the Contract Documents.

(f) **Payments to Surety:** The Surety shall be paid for completing the Work in accordance with the Contract Documents as if the Surety were the Contractor. The Owner shall have the right to deduct from payments to the Surety any reasonable costs incurred by the Owner, including compensation for additional architectural, engineering, managerial, and administrative services, and attorneys' fees as necessitated by termination of the Contractor and completion of the Work by the Surety. No further payments shall be made to the Contractor by the Owner. The Surety shall be solely responsible for any accounting to the Contractor for the portion of the Contract Sum paid to Surety by Owner or for the costs and expenses of completing the Work.

(4) **Wrongful Termination:** If any notice of termination by the Owner for cause, made in good faith, is determined to have been wrongly given, such termination shall be effective and compensation therefore determined as if it had been a termination for convenience pursuant to Paragraph B below.

## **B. TERMINATION by the OWNER for CONVENIENCE**

(1) The Owner may, without cause and at any time, terminate the performance of Work under the Contract in whole, or in part, upon determination by the Owner that such termination is in the Owner's best interest. Such termination is referred to herein as Termination for Convenience.

(2) Upon receipt of a written notice of Termination for Convenience from the Owner, the Contractor shall:

(a) stop Work as specified in the notice;

(b) enter into no further subcontracts or purchase orders for materials, services, or facilities, except as may be necessary for Work directed to be performed prior to the effective date of the

- termination or to complete Work that is not terminated;
- (c) terminate all existing subcontracts and purchase orders to the extent they relate to the terminated Work;
- (d) take such actions as are necessary, or directed by the Architect or Owner, to protect, preserve, and make safe the terminated Work; and
- (e) complete performance of the Work that is not terminated.

(3) In the event of Termination for Convenience, the Contractor shall be entitled to receive payment for the Work performed prior to its termination, including materials and equipment purchased and delivered for incorporation into the terminated Work, and any reasonable costs incurred because of the termination. Such payment shall include reasonable mark-up of costs for overhead and profit, not to exceed the limits stated in Article 19, Changes in the Work. The Contractor shall be entitled to receive payment for reasonable anticipated overhead ("home office") and shall not be entitled to receive payment for any profits anticipated to have been gained from the terminated Work. A proposal for decreasing the Contract Sum shall be submitted to the Architect by the Contractor in such time and detail, and with such supporting documentation, as is reasonably directed by the Owner. Final modification of the Contract shall be by Contract Change Order pursuant to Article 19. Any Claim or Dispute involving the termination or any amount due a party as a result shall be resolved pursuant to Article 24.

## **ARTICLE 28**

### **CONTRACTOR'S RIGHT to SUSPEND or TERMINATE the CONTRACT**

#### **A. SUSPENSION by the OWNER**

If all of the Work is suspended or delayed for the Owner's convenience or under an order of any court, or other public authority, for a period of sixty days, through no act or fault of the Contractor or a Subcontractor, or anyone for whose acts they may be liable, then the Contractor may give the Owner a written Notice of Termination which allows the Owner fourteen days after receiving the Notice in which to give the Contractor appropriate written authorization to resume the Work. Absent the Contractor's receipt of such authorization to resume the Work, the Contract shall terminate upon expiration of this fourteen day period and the Contractor will be compensated by the Owner as if the termination had been for the Owner's convenience pursuant to Article 27.B.

#### **B. NONPAYMENT**

The Owner's failure to pay the undisputed amount of an Application for Payment within sixty days after receiving it from the Architect (Certified pursuant to Article 30) shall be just cause for the Contractor to give the Owner fourteen days' written notice that the Work will be suspended pending receipt of payment but that the Contract shall terminate if payment is not received within fourteen days (or a longer period stated by the Contractor) of the expiration of the fourteen day notice period.

(1) If the Work is then suspended for nonpayment, but resumed upon receipt of payment, the Contractor will be entitled to compensation as if the suspension had been by the Owner pursuant to Article 26, Paragraph B.

(2) If the Contract is then terminated for nonpayment, the Contractor will be entitled to compensation as if the termination had been by the Owner pursuant to Article 27, Paragraph B.

## **ARTICLE 29**

### **PROGRESS PAYMENTS**

#### **A. FREQUENCY of PROGRESS PAYMENTS**

Unless otherwise provided in the Contract Documents, the Owner will make payments to the Contractor as the Work progresses based on monthly estimates prepared and certified by the Contractor, approved and certified by the Architect, and approved by the Owner and other authorities whose approval is required.

#### **B. SCHEDULE of VALUES**

Within ten days after receiving the Notice to Proceed the Contractor shall submit to the Architect a Schedule of Values, which is a breakdown of the Contract Sum showing the value of the various parts of the Work for billing purposes. The Schedule of Values shall be prepared on 8 1/2" x 11" paper in a format that is acceptable to the Architect and Owner and shall divide the Contract Sum into as many parts ("line items") as the Architect and Owner determine necessary to permit evaluation and to show amounts attributable to Subcontractors. The Contractor's overhead and profit are to be proportionately distributed throughout the line items of the Schedule of Values. Upon approval, the Schedule of Values shall be used as a basis for monthly Applications for Payment, unless it is later found to be in error. Approved change order amounts shall be added to or incorporated into the Schedule of Values as mutually agreed by the Contractor and Architect.

#### **C. APPLICATIONS for PAYMENTS**

(1) Based on the approved Schedule of Values, each monthly Application for Payment shall show the Contractor's estimate of the value of Work performed in each line item as of the end of the billing period. The Contractor's cost of materials and equipment not yet incorporated into the Work, but delivered and suitably stored on the site, may be considered in monthly Applications for Payment.

(2) The Contractor's estimate of the value of Work performed and stored materials must represent such reasonableness as to warrant certification by the Architect to the Owner in accordance with Article 30. Each monthly Application for Payment shall be supported by such data as will substantiate the Contractor's right to payment, including without limitation copies of requisitions from subcontractors and material suppliers.

(3) If no other date is stated in the Contract Documents or agreed upon by the parties, each monthly Application for Payment shall be submitted to the Architect on or about the first day of each month and payment shall be issued to the Contractor within thirty days after an Application for Payment is Certified pursuant to Article 30 and delivered to the Owner

**D. MATERIALS STORED OFF SITE**

Unless otherwise provided in the Contract Documents, the Contractor's cost of materials and equipment to be incorporated into the Work, which are stored off the site, may also be considered in monthly Applications for Payment under the following conditions:

- (1) the contractor has received written approval from the Architect and Owner to store the materials or equipment off site in advance of delivering the materials to the off site location;
- (2) a Certificate of Insurance is furnished to the Architect evidencing that a special insurance policy, or rider to an existing policy, has been obtained by the Contractor providing all-risk property insurance coverage, specifically naming the materials or equipment stored, and naming the Owner as an additionally insured party;
- (3) the Architect is provided with a detailed inventory of the stored materials or equipment and the materials or equipment are clearly marked in correlation to the inventory to facilitate inspection and verification of the presence of the materials or equipment by the Architect or Owner;
- (4) the materials or equipment are properly and safely stored in a bonded warehouse, or a facility otherwise approved in advance by the Architect and Owner; and
- (5) 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.

**E. RETAINAGE**

(1) "Retainage" is defined as the money earned and, therefore, belonging to the Contractor (subject to final settlement of the Contract) which has been retained by the Owner conditioned on final completion and acceptance of all Work required by the Contract Documents. Retainage shall not be relied upon by Contractor (or Surety) to cover or off-set unearned monies attributable to uncompleted or uncorrected Work.

(2) In making progress payments the Owner shall retain five percent of the estimated value of Work performed and the value of the materials stored for the Work; but after retainage has been held upon fifty percent of the Contract Sum, no additional retainage will be withheld.

**F. CONTRACTOR'S CERTIFICATION**

(1) Each Application for Payment shall bear the Contractor's notarized certification that, to the best of the Contractor's knowledge, information, and belief, the Work covered by the Application for Payment has been completed in accordance with the Contract Documents, that all amounts have been paid by the Contractor for Work for which previous Certificates for Payments were issued and payments received from the Owner and that the current payment shown in the Application for Payment has not yet been received.

(2) By making this certification the Contractor represents to the Architect and Owner that, upon receipt of previous progress payments from the Owner, the Contractor has promptly paid each Subcontractor, in accordance with the terms of its agreement with the Subcontractor, the amount due the Subcontractor from the amount included in the progress payment on account of the Subcontractor's Work and stored materials. The Architect and Owner may advise Subcontractors and suppliers regarding percentages of completion or amounts requested and/or approved in an Application for Payment on account of the Subcontractor's Work and stored materials.

**G. PAYMENT ESTABLISHES OWNERSHIP**

All material and Work covered by progress payments shall become the sole property of the Owner, but the Contractor shall not be relieved from the sole responsibility for the care and protection of material and Work upon which payments have been made and for the restoration of any damaged material and Work.

**ARTICLE 30**  
**CERTIFICATION and APPROVALS for PAYMENT**

- A.** The Architect's review, approval, and certification of Applications for Payment shall be based on the Architect's general knowledge of the Work obtained through site visits and the information provided by the Contractor with the Application. The Architect shall not be required to perform exhaustive examinations, evaluations, or estimates of the cost of completed or uncompleted Work or stored materials to verify the accuracy of amounts requested by the Contractor, but the Architect shall have the authority to adjust the Contractor's estimate when, in the Architect's reasonable opinion, such estimates are overstated or understated.
- B.** Within seven days after receiving the Contractor's monthly Application for Payment, or such other time as may be stated in the Contract Documents, the Architect will take one of the following actions:
- (1) The Architect will approve and certify the Application as submitted and forward it as a Certification for Payment for approval by the Owner (and other approving authorities, if any) and payment.
  - (2) If the Architect takes exception to any amounts claimed by the Contractor and the Contractor and Architect cannot agree on revised amounts, the Architect will promptly issue a Certificate for Payment for the amount for which the Architect is able to certify to the Owner, transmitting a copy of same to the Contractor.
  - (3) To the extent the Architect determines may be necessary to protect the Owner from loss on account of any of the causes stated in Article 31, the Architect may subtract from the Contractor's estimates and will issue a Certificate for Payment to the Owner, with a copy to the Contractor, for such amount as the Architect determines is properly due and notify the Contractor and Owner in writing of the Architect's reasons for withholding payment in whole or in part.
- C.** Neither the Architect's issuance of a Certificate for Payment nor the Owner's resulting progress payment shall be a representation to the Contractor that the Work in progress or completed at that time is accepted or deemed to be in conformance with the Contract Documents.
- D.** The Architect shall not be required to determine that the Contractor has promptly or fully paid Subcontractors and suppliers or how or for what purpose the Contractor has used monies paid under the Construction Contract. However, the Architect may, upon request and if practical, inform any Subcontractor or supplier of the amount, or percentage of completion, approved or paid to the Contractor on account of the materials supplied or the Work performed by the Subcontractor.

**ARTICLE 31**  
**PAYMENTS WITHHELD**

- A.** The Architect may nullify or revise a previously issued Certificate for Payment prior to Owner's payment thereunder to the extent as may be necessary in the Architect's opinion to protect the Owner from loss on account of any of the following causes not discovered or fully accounted for at the time of the certification or approval of the Application for Payment:
- (1) Defective Work;
  - (2) filed, or reasonable evidence indicating probable filing of, claims arising out of the Contract by other parties against the Contractor;
  - (3) the Contractor's failure to pay for labor, materials or equipment or to pay Subcontractors;
  - (4) reasonable evidence that the Work cannot be completed for the unpaid balance of the Contract Sum;
  - (5) damage suffered by the Owner or another contractor caused by the Contractor, a Subcontractor, or anyone for whose acts they may be liable;
  - (6) reasonable evidence that the Work will not be completed within the Contract Time, and that the unpaid balance is insufficient to cover applicable liquidated damages; or
  - (7) the Contractor's persistent failure to conform to the requirements of the Contract Documents.
- B.** If the Owner deems it necessary to withhold payment pursuant to preceding Paragraph A, the Owner will notify the Contractor and Architect in writing of the amount to be withheld and the reason for same.
- C.** The Architect shall not be required to withhold payment for completed or partially completed Work for which compliance with the Contract Documents remains to be determined by Specified Inspections or Final Inspections to be performed in their proper sequence. However, if Work for which payment has been approved, certified, or made under an Application for Payment is subsequently determined to be Defective Work, the Architect shall determine an appropriate amount that will protect the Owner's interest against the Defective Work.
- (1) If payment has not been made against the Application for Payment first including the Defective Work, the Architect will notify the Owner and Contractor of the amount to be withheld from the payment until the Defective Work is brought into compliance with the Contract Documents.
  - (2) If payment has been made against the Application for Payment first including the Defective Work, the Architect will withhold the appropriate amount from the next Application for Payment submitted after the determination of noncompliance, such amount to then be withheld until the Defective Work is brought into compliance with the Contract Documents.
- D.** The amount withheld will be paid with the next Application for Payment certified and approved after the condition for which the Owner has withheld payment is removed or otherwise resolved to the Owner's satisfaction.
- E.** The Owner shall have the right to withhold from payments due the Contractor under this Contract an amount equal to any amount which the Contractor owes the Owner under another contract.

**ARTICLE 32**  
**SUBSTANTIAL COMPLETION**

- A.** Substantial Completion is the stage in the progress of the Work when the Work or designated portion of the Work is sufficiently complete in accordance with the Contract Documents so that the Owner can occupy or utilize the Work for its intended use without disruption or interference by the Contractor in completing or correcting any remaining unfinished Work (“punch list” items). Substantial Completion of the Work, or a designated portion of the Work, is not achieved until so agreed in a Certificate of Substantial Completion signed by the Contractor, Architect, Owner, and Technical Staff of the Alabama Building Commission.
- B.** The Contractor shall notify the Architect in writing when it considers the Work, or a portion of the Work which the Owner has agreed to accept separately, to be substantially complete and ready for a Final Inspection pursuant to Article 16. In this notification the Contractor shall identify any items remaining to be completed or corrected for Final Acceptance prior to final payment.
- C.** Substantial Completion is achieved and a Final Inspection is appropriate only when a minimal number of punch list items exists and only a short period of time will be required to correct or complete them. Upon receipt of the Contractor’s notice for a Final Inspection, the Architect will advise the Contractor in writing of any conditions of the Work which the Architect or Owner is aware do not constitute Substantial Completion, otherwise, a Final Inspection will proceed within a reasonable time after the Contractor’s notice is given. However, the Architect will not be required to prepare lengthy listings of punch list items; therefore, if the Final Inspection discloses that Substantial Completion has not been achieved, the Architect may discontinue or suspend the inspection until the Contractor does achieve Substantial Completion.

**D. CERTIFICATE of SUBSTANTIAL COMPLETION**

- (1) When the Work or a designated portion of the Work is substantially complete, the Architect will prepare and sign a Certificate of Substantial Completion to be signed in order by the Contractor, Owner, and Alabama Building Commission.
- (2) When signed by all parties, the Certificate of Substantial Completion shall establish the Date of Substantial Completion which is the date upon which:

  - (a) the Work, or designated portion of the Work, is accepted by the Architect, Owner, and Alabama Building Commission as being ready for occupancy,
  - (b) the Contractor’s one-year and special warranties for the Work covered by the Certificate commence, unless stated otherwise in the Certificate (the one-year warranty for punch list items completed or corrected after the period allowed in the Certificate shall commence on the date of their Final Acceptance) , and
  - (c) Owner becomes responsible for building security, maintenance, utility services, and insurance, unless stated otherwise in the Certificate.
- (3) The Certificate of Substantial Completion shall set the time within which the Contractor shall finish all items on the “punch list” accompanying the Certificate. The completion of punch list items shall be a condition precedent to Final Payment.



- (4) If the Work or designated portion covered by a Certificate of Substantial Completion includes roofing work, the General Contractor's (5-year) Roofing Guarantee, ABC Form C-9, must be executed by the Contractor and attached to the Certificate of Substantial Completion. If the Contract Documents specify any other roofing warranties to be provided by the roofing manufacturer, Subcontractor, or Contractor, they must also be attached to the Certificate of Substantial Completion. The Alabama Building Commission will not sign the Certificate of Substantial Completion in the absence of the roofing guarantees.
- E. The Date of Substantial Completion of the Work, as set in the Certificate of Substantial Completion of the Work or of the last completed portion of the Work, establishes the extent to which the Contractor is liable for Liquidated Damages, if any; however, should the Contractor fail to complete all punch list items within thirty days, or such other time as may be stated in the respective Certificate of Substantial Completion, the Contractor shall bear any expenses, including additional Architectural services and expenses, incurred by the Owner as a result of such failure to complete punch list items in a timely manner.

### **ARTICLE 33** **OCCUPANCY or USE PRIOR to COMPLETION**

#### **A. UPON SUBSTANTIAL COMPLETION**

Prior to completion of the entire Work, the Owner may occupy or begin utilizing any designated portion of the Work on the agreed Date of Substantial Completion of that portion of the Work.

#### **B. BEFORE SUBSTANTIAL COMPLETION**

- (1) The Owner shall not occupy or utilize any portion of the Work before Substantial Completion of that portion has been achieved.
- (2) The Owner may deliver furniture and equipment and store, or install it in place ready for occupancy and use, in any designated portion of the Work before it is substantially completed under the following conditions:
- (a) The Owner's storage or installation of furniture and equipment will not unreasonably disrupt or interfere with the Contractor's completion of the designated portion of the Work.
  - (b) The Contractor consents to the Owner's planned action (such consent shall not be unreasonably withheld).
  - (c) The Owner shall be responsible for insurance coverage of the Owner's furniture and equipment, and the Contractor's liability shall not be increased.
  - (d) The Contractor, Architect, and Owner will jointly inspect and record the condition of the Work in the area before the Owner delivers and stores or installs furniture and equipment; the Owner will equitably compensate the Contractor for making any repairs to the Work that may subsequently be required due to the Owner's delivery and storage or installation of furniture and equipment.
  - (e) The Owner's delivery and storage or installation of furniture and equipment shall not be deemed an acceptance of any Work not completed in accordance with the requirements of the Contract Documents.

## **ARTICLE 34** **FINAL PAYMENT**

### **A. PREREQUISITES to FINAL PAYMENT**

The following conditions are prerequisites to Final Payment becoming due the Contractor:

- (1) Full execution of a Certificate of Substantial Completion for the Work, or each designated portion of the Work.
- (2) Final Acceptance of the Work.
- (3) The Contractor's completion, to the satisfaction of the Architect and Owner, of all documentary requirements of the Contract Documents; such as delivery of "as-built" documents, operating and maintenance manuals, warranties, etc.
- (4) Delivery to the Owner of a final Application for Payment, prepared by the Contractor and approved and certified by the Architect.
- (5) Completion of an Advertisement for Completion pursuant to Paragraph C below.
- (6) Delivery by the Contractor to the Owner through the Architect of a Release of Claims and such other documents as may be required by Owner, satisfactory in form to the Owner pursuant to Paragraph D below.
- (7) Consent of Surety, if any, to Final Payment to Contractor.
- (8) Delivery by the Contractor to the Architect and Owner of other documents, if any, required by the Contract Documents as prerequisites to Final Payment.

### **B. FINAL ACCEPTANCE of the WORK**

"Final Acceptance of the Work" shall be achieved when all "punch list" items recorded with the Certificate(s) of Substantial Completion are accounted for by either: (1) their completion or correction by the Contractor and acceptance by the Architect, Owner, and BC Project Inspector, or (2) their resolution under Article 18, Deductions for Uncorrected Work.

### **C. ADVERTISEMENT for COMPLETION**

(1) **If the Contract Sum is less than \$50,000:** The Owner, immediately after being notified by the Architect that all other requirements of the Contract have been completed, shall give public notice of completion of the Contract by having an Advertisement for Completion published one time in a newspaper of general circulation, published in the county in which the Owner is located and shall post notice of completion of the Contract on the Owner's bulletin board for one week, and shall require the Contractor to certify under oath that all bills have been paid in full. Final payment may be made at any time after the notice has been posted for one entire week.

(2) **If the Contract Sum is more than \$50,000:** The Contractor, immediately after being notified by the Architect that all other requirements of the Contract have been completed, shall give public notice of completion of the Contract by having an Advertisement for Completion, similar to the sample contained in the Project Manual, published for a period of four successive weeks in some newspaper of general circulation published within the city or county where the Work was performed. Proof of publication of the Advertisement for Completion, in duplicate, shall be made by the Contractor to the Architect by affidavit of the publisher and a printed copy of the

Advertisement for Completion published, in duplicate. If no newspaper is published in the county where the work was done, the notice may be given by posting at the Court House for thirty days and proof of same made by Probate Judge or Sheriff and the Contractor. Final payment shall not be due until thirty days after this public notice is completed.

**D. RELEASE of CLAIMS**

The Release of Claims and other documents referenced in Paragraph A(6) above are as follows:

- (1) A release executed by Contractor of all claims and claims of lien against the Owner arising under and by virtue of the Contract, other than such claims of the Contractor, if any, as may have been previously made in writing and as may be specifically excepted by the Contractor from the operation of the release in stated amounts to be set forth therein.
- (2) An affidavit under oath, if required, stating that so far as the Contractor has knowledge or information, there are no claims or claims of lien which have been or will be filed by any Subcontractor, Supplier or other party for labor or material for which a claim or claim of lien could be filed.
- (3) A release, if required, of all claims and claims of lien made by any Subcontractor, Supplier or other party against the Owner or unpaid Contract funds held by the Owner arising under or related to the Work on the Project; provided, however, that if any Subcontractor, Supplier or others refuse to furnish a release of such claims or claims of lien, the Contractor may furnish a bond executed by Contractor and its Surety to the Owner to provide an unconditional obligation to defend, indemnify and hold harmless the Owner against any loss, cost or expense, including attorney's fees, arising out of or as a result of such claims, or claims of lien, in which event Owner may make Final Payment notwithstanding such claims or claims of lien. If Contractor and Surety fail to fulfill their obligations to Owner under the bond, the Owner shall be entitled to recover damages as a result of such failure, including all costs and reasonable attorney's fees incurred to recover such damages.

**E. EFFECT of FINAL PAYMENT**

- (1) The making of Final Payment shall constitute a waiver of Claims by the Owner except those arising from:
  - (a) liens, claims, security interests or encumbrances arising out of the Contract and unsettled;
  - (b) failure of the Work to comply with the requirements of the Contract Documents;
  - (c) terms of warranties or indemnities required by the Contract Documents, or
  - (d) latent defects.
- (2) Acceptance of Final Payment by the Contractor shall constitute a waiver of claims by Contractor except those previously made in writing, identified by Contractor as unsettled at the time of final Application for Payment, and specifically excepted from the release provided for in Paragraph D(1), above.

**ARTICLE 35**  
**CONTRACTOR'S WARRANTY**

**A. GENERAL WARRANTY**

The Contractor warrants to the Owner and Architect that all materials and equipment furnished under the Contract will be of good quality and new, except such materials as may be expressly provided or allowed in the Contract Documents to be otherwise, and that none of the Work will be Defective Work as defined in Article 1.

**B. ONE-YEAR WARRANTY**

(1) If, within one year after the date of Substantial Completion of the Work or each designated portion of the Work (or otherwise as agreed upon in a mutually-executed Certificate of Substantial Completion), any of the Work is found to be Defective Work, the Contractor shall promptly upon receipt of written notice from the Owner or Architect, and without expense to either, replace or correct the Defective Work to conform to the requirements of the Contract Documents, and repair all damage to the site, the building and its contents which is the result of Defective Work or its replacement or correction.

(2) The one-year warranty for punch list items shall begin on the Date of Substantial Completion if they are completed or corrected within the time period allowed in the Certificate of Substantial Completion in which they are recorded. The one-year warranty for punch list items that are not completed or corrected within the time period allowed in the Certificate of Substantial Completion, and other Work performed after Substantial Completion, shall begin on the date of Final Acceptance of the Work. The Contractor's correction of Work pursuant to this warranty does not extend the period of the warranty. The Contractor's one-year warranty does not apply to defects or damages due to improper or insufficient maintenance, improper operation, or wear and tear during normal usage.

(3) Upon recognizing a condition of Defective Work, the Owner shall promptly notify the Contractor of the condition. If the condition is causing damage to the building, its contents, equipment, or site, the Owner shall take reasonable actions to mitigate the damage or its continuation, if practical. If the Contractor fails to proceed promptly to comply with the terms of the warranty, or to provide the Owner with satisfactory written verification that positive action is in process, the Owner may have the Defective Work replaced or corrected and the Contractor and the Contractor's Surety shall be liable for all expense incurred.

(4) **Year-end Inspection(s):** An inspection of the Work, or each separately completed portion thereof, is required near the end of the Contractor's one-year warranty period(s). The subsequent delivery of the Architect's report of a Year-end Inspection will serve as confirmation that the Contractor was notified of Defective Work found within the warranty period.

(5) The Contractor's warranty of one year is in addition to, and not a limitation of, any other remedy stated herein or available to the Owner under applicable law.

**C. GENERAL CONTRACTOR'S ROOFING GUARANTEE**

(1) In addition to any other roof related warranties or guarantees that may be specified in the Contract Documents, the roof and associated work shall be guaranteed by the General Contractor against leaks and defects of materials and workmanship for a period of five (5) years, starting on the Date of Substantial Completion of the Project as stated in the Certificate of Substantial Completion. This guarantee for punch list items shall begin on the Date of Substantial Completion if they are completed or corrected within the time period allowed in the Certificate of Substantial Completion in which they are recorded. The guarantee for punch list items that are not completed or corrected within the time period allowed in the Certificate of Substantial Completion shall begin on the date of Final Acceptance of the Work.

(2) The "General Contractor's Roofing Guarantee" (ABC Form C-9), included in the Project Manual, shall be executed in triplicate, signed by the appropriate party and submitted to the Architect for submission with the Certificate of Substantial Completion to the Owner and the Building Commission.

(3) This guarantee does not include costs which might be incurred by the General Contractor in making visits to the site requested by the Owner regarding roof problems that are due to lack of proper maintenance (keeping roof drains and/or gutters clear of debris that cause a stoppage of drainage which results in water ponding, overflowing of flashing, etc.), or damages caused by vandalism or misuse of roof areas. Should the contractor be required to return to the job to correct problems of this nature that are determined not to be related to faulty workmanship and materials in the installation of the roof, payment for actions taken by the Contractor in response to such request will be the responsibility of the Owner. A detailed written report shall be made by the General Contractor on each of these 'Service Calls' with copies to the Architect, Owner and Building Commission.

**D. SPECIAL WARRANTIES**

(1) The Contractor shall deliver to the Owner through the Architect all special or extended warranties required by the Contract Documents from the Contractor, Subcontractors, and suppliers.

(2) The Contractor and the Contractor's Surety shall be liable to the Owner for such special warranties during the Contractor's one-year warranty; thereafter, the Contractor's obligations relative to such special warranties shall be to provide reasonable assistance to the Owner in their enforcement.

**E. ASSUMPTION of GUARANTEES of OTHERS**

If the Contractor disturbs, alters, or damages any work guaranteed under a separate contract, thereby voiding the guarantee of that work, the Contractor shall restore the work to a condition satisfactory to the Owner and shall also guarantee it to the same extent that it was guaranteed under the separate contract.

**ARTICLE 36**  
**INDEMNIFICATION AGREEMENT**

To the fullest extent permitted by law, the Contractor shall defend, indemnify, and hold harmless the Owner, Architect, Architect's consultants, Alabama Building Commission, State Department of Education (if applicable), and their agents, employees, and consultants (hereinafter collectively referred to as the "Indemnitees") from and against all claims, damages, losses and expenses, including but not limited to attorneys' fees, arising out of, related to, 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, including loss of use resulting therefrom, and is caused in whole or in part by 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 such claim, damage, loss or expense is caused in part, or is alleged but not legally established to have been caused in whole or in part by the negligence or other fault of a party indemnified hereunder.

- A. This indemnification shall extend to all claims, damages, losses and expenses for injury or damage to adjacent or neighboring property, or persons injured thereon, that arise out of, relate to, or result from performance of the Work.
- B. This indemnification does not extend to the liability of the Architect, or the Architect's Consultants, agents, or employees, arising out of (1) the preparation or approval of maps, shop drawings, opinions, reports, surveys, field orders, Change Orders, drawings or specifications, or (2) the giving of or the failure to give directions or instructions, provided such giving or failure to give instructions is the primary cause of the injury or damage.
- C. This indemnification does not apply to the extent of the sole negligence of the Indemnitees.

**ARTICLE 37**  
**CONTRACTOR'S and SUBCONTRACTORS' INSURANCE**

**A. GENERAL**

**(1) RESPONSIBILITY.** The Contractor shall be responsible to the Owner from the time of the signing of the Construction Contract or from the beginning of the first work, whichever shall be earlier, for all injury or damage of any kind resulting from any negligent act or omission or breach, failure or other default regarding the work by the Contractor, a Subcontractor, anyone directly or indirectly employed by them or anyone for whose acts they may be liable, regardless of who may be the owner of the property.

**(2) INSURANCE PROVIDERS.** Each of the insurance coverages required below shall be issued by an insurer licensed by the Insurance Commissioner to transact the business of insurance in the State of Alabama for the applicable line of insurance, and such insurer (or, for qualified self-insureds or group self-insureds, a specific excess insurer providing statutory limits) must have a Best Policyholders Rating of "A-" or better and a financial size rating of Class V or larger.

**(3) NOTIFICATION ENDORSEMENT.** Each policy shall be endorsed to provide that the insurance company agrees that the policy shall not be canceled, changed, allowed to lapse or allowed to expire for any reason until thirty days after the Owner has received written notice by certified mail as evidenced by return receipt or until such time as other insurance coverage providing protection equal to protection called for in the Contract Documents shall have been received, accepted and acknowledged by the Owner. Such notice shall be valid only as to the Project as shall have been designated by Project Name and Number in said notice.

**(4) INSURANCE CERTIFICATES.** The Contractor shall procure the insurance coverages identified below, or as otherwise required in the Contract Documents, at the Contractor's own expense, and to evidence that such insurance coverages are in effect, the Contractor shall furnish the Owner an insurance certificate(s) acceptable to the Owner and listing the Owner as the certificate holder. The insurance certificate(s) must be delivered to the Owner with the Construction Contract and Bonds for final approval and execution of the Construction Contract. The insurance certificate must provide the following:

- (a) Name and address of authorized agent of the insurance company
- (b) Name and address of insured
- (c) Name of insurance company or companies
- (d) Description of policies
- (e) Policy Number(s)
- (f) Policy Period(s)
- (g) Limits of liability
- (h) Name and address of Owner as certificate holder
- (i) Project Name and Number, if any
- (j) Signature of authorized agent of the insurance company
- (k) Telephone number of authorized agent of the insurance company
- (l) Mandatory thirty day notice of cancellation / non-renewal / change

**(5) MAXIMUM DEDUCTIBLE.** Self-insured retention, except for qualified self-insurers or group self-insurers, in any policy shall not exceed \$25,000.00.

## **B. INSURANCE COVERAGES**

Unless otherwise provided in the Contract Documents, the Contractor shall purchase the types of insurance coverages with liability limits not less than as follows:

### **(1) WORKERS' COMPENSATION and EMPLOYER'S LIABILITY INSURANCE**

- (a) Workers' Compensation coverage shall be provided in accordance with the statutory coverage required in Alabama. A group insurer must submit a certificate of authority from the Alabama Department of Industrial Relations approving the group insurance plan. A self-insurer must submit a certificate from the Alabama Department of Industrial Relations stating the Contractor qualifies to pay its own workers' compensation claims.
- (b) Employer's Liability Insurance limits shall be at least:
  - .1 Bodily Injury by Accident - \$1,000,000 each accident
  - .2 Bodily Injury by Disease - \$1,000,000 each employee

**(2) COMMERCIAL GENERAL LIABILITY INSURANCE**

(a) Commercial General Liability Insurance, written on an ISO Occurrence Form (current edition as of the date of Advertisement for Bids) or equivalent, shall include, but need not be limited to, coverage for bodily injury and property damage arising from premises and operations liability, products and completed operations liability, blasting and explosion, collapse of structures, underground damage, personal injury liability and contractual liability. The Commercial General Liability Insurance shall provide at minimum the following limits:

<u>Coverage</u>	<u>Limit</u>
.1 General Aggregate	\$ 2,000,000.00 per Project
.2 Products, Completed Operations Aggregate	\$ 2,000,000.00 per Project
.3 Personal and Advertising Injury	\$ 1,000,000.00 per Occurrence
.4 Each Occurrence	\$ 1,000,000.00

(b) Additional Requirements for Commercial General Liability Insurance:

- .1 The policy shall name the Owner, Architect, Alabama Building Commission, State Department of Education (if applicable), and their agents, consultants and employees as additional insureds, state that this coverage shall be primary insurance for the additional insureds; and contain no exclusions of the additional insureds relative to job accidents.
- .2 The policy must include separate per project aggregate limits.

**(3) COMMERCIAL BUSINESS AUTOMOBILE LIABILITY INSURANCE**

(a) Commercial Business Automobile Liability Insurance which shall include coverage for bodily injury and property damage arising from the operation of any owned, non-owned or hired automobile. The Commercial Business Automobile Liability Insurance Policy shall provide not less than \$1,000,000 Combined Single Limits for each occurrence.

(b) The policy shall name the Owner, Architect, Alabama Building Commission, State Department of Education (if applicable), and their agents, consultants, and employees as additional insureds.

**(4) COMMERCIAL UMBRELLA LIABILITY INSURANCE**

(a) Commercial Umbrella Liability Insurance to provide excess coverage above the Commercial General Liability, Commercial Business Automobile Liability and the Workers' Compensation and Employer's Liability to satisfy the minimum limits set forth herein.

(b) Minimum Combined Primary Commercial General Liability and Commercial/Excess Umbrella Limits of:

- .1 \$ 5,000,000 per Occurrence
- .2 \$ 5,000,000 Aggregate

(c) Additional Requirements for Commercial Umbrella Liability Insurance:

- .1 The policy shall name the Owner, Architect, Alabama Building Commission, State Department of Education (if applicable), and their agents, consultants, and employees as additional insureds.
- .2 The policy must be on an "occurrence" basis.

**(5) BUILDER'S RISK INSURANCE**

(a) The Builder's Risk Policy shall be made payable to the Owner and Contractor, as their interests may appear. The policy amount shall be equal to 100% of the Contract Sum, written on a Causes of Loss - Special Form (current edition as of the date of Advertisement for Bids),



or its equivalent. All deductibles shall be the sole responsibility of the Contractor.

(b) The policy shall be endorsed as follows:

“The following may occur without diminishing, changing, altering or otherwise affecting the coverage and protection afforded the insured under this policy:

- (i) Furniture and equipment may be delivered to the insured premises and installed in place ready for use; or
- (ii) Partial or complete occupancy by Owner; or
- (iii) Performance of work in connection with construction operations insured by the Owner, by agents or lessees or other contractors of the Owner, or by contractors of the lessee of the Owner.”

#### **C. SUBCONTRACTORS' INSURANCE**

(1) **WORKERS' COMPENSATION and EMPLOYER'S LIABILITY INSURANCE.** The Contractor shall require each Subcontractor to obtain and maintain Workers' Compensation and Employer's Liability Insurance coverages as described in preceding Paragraph B, or to be covered by the Contractor's Workers' Compensation and Employer's Liability Insurance while performing Work under the Contract.

(2) **LIABILITY INSURANCE.** The Contractor shall require each Subcontractor to obtain and maintain adequate General Liability, Automobile Liability, and Umbrella Liability Insurance coverages similar to those described in preceding Paragraph B. Such coverage shall be in effect at all times that a Subcontractor is performing Work under the Contract.

(3) **ENFORCEMENT RESPONSIBILITY.** The Contractor shall have responsibility to enforce its Subcontractors' compliance with these or similar insurance requirements; however, the Contractor shall, upon request, provide the Architect or Owner acceptable evidence of insurance for any Subcontractor.

#### **D. TERMINATION of OBLIGATION to INSURE**

Unless otherwise expressly provided in the Contract Documents, the obligation to insure as provided herein shall continue as follows:

(1) **BUILDER'S RISK INSURANCE.** The obligation to insure under Subparagraph B(5) shall remain in effect until the Date of Substantial Completion as shall be established in the Certificate of Substantial Completion. In the event that multiple Certificates of Substantial Completion covering designated portions of the Work are issued, Builder's Risk coverage shall remain in effect until the Date of Substantial Completion as shall be established in the last issued Certificate of Substantial Completion. However, in the case that the Work involves separate buildings, Builder's Risk coverage of each separate building may terminate on the Date of Substantial Completion as established in the Certificate of Substantial Completion issued for each building.

(2) **PRODUCTS and COMPLETED OPERATIONS.** The obligation to carry Products and Completed Operations coverage specified under Subparagraph B(2) shall remain in effect for two years after the Date(s) of Substantial Completion.

**(3) ALL OTHER INSURANCE.** The obligation to carry other insurance coverages specified under Subparagraphs B(1) through B(4) and Paragraph C shall remain in effect after the Date(s) of Substantial Completion until such time as all Work required by the Contract Documents is completed. Equal or similar insurance coverages shall remain in effect if, after completion of the Work, the Contractor, a Subcontractor, anyone directly or indirectly employed by them or anyone for whose acts they may be liable, returns to the Project to perform warranty or maintenance work pursuant to the terms of the Contract Documents.

**E. 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 performing construction or operations related to the Project, 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 builder's risk insurance or other property insurance applicable to the Work or to other property located within or adjacent to the Project, except such rights as they may have to proceeds of such insurance held by the Owner or Contractor as fiduciary. The Owner or Contractor, as appropriate, shall require of the Architect, Architect's consultants, separate contractors, if any, and the subcontractor, sub-subcontractors, suppliers, 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 the 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. The waivers provided for in this paragraph shall survive final acceptance and continue to apply to insured losses to the Work or other property on or adjacent to the Project.

**ARTICLE 38**  
**PERFORMANCE and PAYMENT BONDS**

**A. GENERAL**

Upon signing and returning the Construction Contract to the Owner for final approval and execution, the Contractor shall, at the Contractor's expense, furnish to the Owner a Performance Bond and a Payment Bond, each in a penal sum equal to 100% of the Contract Sum. Each bond shall be on the form contained in the Project Manual, shall be executed by a surety company (Surety) acceptable to the Owner and duly authorized and qualified to make such bonds in the State of Alabama in the required amounts, shall be countersigned by an authorized, Alabama resident agent of the Surety who is qualified to execute such instruments, and shall have attached thereto a power of attorney of the signing official.

The provisions of this Article are not applicable to this Contract if the Contract Sum is less than \$50,000, unless bonds are required for this Contract in the Supplemental General Conditions.

**B. PERFORMANCE BOND**

Through the Performance Bond, the Surety's obligation to the Owner shall be to assure the prompt

and faithful performance of the Contract and Contract Change Orders. The Penal Sum shall remain equal to the Contract Sum as the Contract Sum is adjusted by Contract Change Orders. In case of default on the part of the Contractor, the Surety shall take charge of and complete the Work in accordance with the terms of the Performance Bond. Any reasonable expenses incurred by the Owner as a result of default on the part of the Contractor, including architectural, engineering, administrative, and legal services, shall be recoverable under the Performance Bond.

**C. PAYMENT BOND**

Through the Payment Bond the Surety's obligation to the Owner shall be to guarantee that the Contractor and its Subcontractors shall promptly make payment to all persons supplying labor, materials, or supplies for, or in, the prosecution of the Work, including the payment of reasonable attorneys fees incurred by successful claimants or plaintiffs in civil actions on the Bond. Any person or entity indicating that they have a claim of nonpayment under the Bond shall, upon written request, be promptly furnished a certified copy of the Bond and Construction Contract by the Contractor, Architect, Owner, or Alabama Building Commission, whomever is recipient of the request.

**D. CHANGE ORDERS**

The Penal Sum shall remain equal to the Contract Sum as the Contract Sum is adjusted by Contract Change Orders. All Contract Change Orders involving an increase in the Contract Sum will require consent of Surety by endorsement of the Contract Change Order form. The Surety waives notification of any Contract Change Orders involving only extension of the Contract Time.

**E. EXPIRATION**

The obligations of the Contractor's performance bond surety shall be coextensive with the contractor's performance obligations under the Contract Documents; provided, however, that the surety's obligation shall expire at the end of the one-year warranty period(s) of Article 35.

**ARTICLE 39**  
**ASSIGNMENT**

The Contractor shall not assign the Contract or sublet it as a whole nor assign any moneys due or to become due to the Contractor thereunder without the previous written consent of the Owner (and of the Surety, in the case of a bonded Construction Contract). As prescribed by the Public Works Law, the Contract shall in no event be assigned to an unsuccessful bidder for the Contract whose bid was rejected because the bidder was not a responsible or responsive bidder.

**ARTICLE 40**  
**CONSTRUCTION by OWNER or SEPARATE CONTRACTORS**

**A. OWNER'S RESERVATION of RIGHT**

(1) The Owner reserves the right to self-perform, or to award separate contracts for, other portions

of the Project and other Project related construction and operations on the site. The contractual conditions of such separate contracts shall be substantially similar to those of this Contract, including insurance requirements and the provisions of this Article. If the Contractor considers such actions to involve delay or additional cost under this Contract, notifications and assertion of claims shall be as provided in Article 20 and Article 23.

(2) When separate contracts are awarded, the term "Contractor" in the separate Contract Documents shall mean the Contractor who executes the respective Construction Contract.

**B. COORDINATION**

Unless otherwise provided in the Contract Documents, the Owner shall be responsible for coordinating the activities of the Owner's forces and separate contractors with the Work of the Contractor. The Contractor shall cooperate with the Owner and separate contractors, shall participate in reviewing and comparing their construction schedules relative to that of the Contractor when directed to do so, and shall make and adhere to any revisions to the construction schedule resulting from a joint review and mutual agreement.

**C. CONDITIONS APPLICABLE to WORK PERFORMED by OWNER**

Unless otherwise provided in the Contract Documents, when the Owner self-performs construction or operations related to the Project, the Owner shall be subject to the same obligations to Contractor as Contractor would have to a separate contractor under the provision of this Article 40.

**D. MUTUAL RESPONSIBILITY**

(1) The Contractor shall reasonably accommodate the required introduction and storage of materials and equipment and performance of activities by the Owner and separate contractors and shall connect and coordinate the Contractor's Work with theirs as required by the Contract Documents.

(2) By proceeding with an element or portion of the Work that is applied to or performed on construction by the Owner or a separate contractor, or which relies upon their operations, the Contractor accepts the condition of such construction or operations as being suitable for the Contractor's Work, except for conditions that are not reasonably discoverable by the Contractor. If the Contractor discovers any condition in such construction or operations that is not suitable for the proper performance of the Work, the Contractor shall not proceed, but shall instead promptly notify the Architect in writing of the condition discovered.

(3) The Contractor shall reimburse the Owner for any costs incurred by a separate contractor and payable by the Owner because of acts or omissions of the Contractor. Likewise, the Owner shall be responsible to the Contractor for any costs incurred by the Contractor because of the acts or omissions of a separate contractor.

(4) The Contractor shall not cut or otherwise alter construction by the Owner or a separate contractor without the written consent of the Owner and separate contractor; such consent shall not be unreasonably withheld. Likewise, the Contractor shall not unreasonably withhold its consent allowing the Owner or a separate contractor to cut or otherwise alter the Work.

(5) The Contractor shall promptly remedy any damage caused by the Contractor to the construction or property of the Owner or separate contractors.

## **ARTICLE 41** **SUBCONTRACTS**

### **A. AWARD of SUBCONTRACTS and OTHER CONTRACTS for PORTIONS of the WORK**

(1) Unless otherwise provided in the Contract Documents, when delivering the executed Construction Contract, bonds, and evidence of insurance to the Architect, the Contractor shall also submit a listing of Subcontractors proposed for each principal portion of the Work and fabricators or suppliers proposed for furnishing materials or equipment fabricated to the design of the Contract Documents. This listing shall be in addition to any naming of Subcontractors, fabricators, or suppliers that may have been required in the bid process. The Architect will promptly reply to the Contractor in writing stating whether or not the Owner, after due investigation, has reasonable objection to any Subcontractor, fabricator, or supplier proposed by the Contractor. The issuance of the Notice to Proceed in the absence of such objection by the Owner shall constitute notice that no reasonable objection to them is made.

(2) The Contractor shall not contract with a proposed Subcontractor, fabricator, or supplier to whom the Owner has made reasonable and timely objection. Except in accordance with prequalification procedures as may be contained in the Contract Documents, through specified qualifications, or on the grounds of reasonable objection, the Owner may not restrict the Contractor's selection of Subcontractors, fabricators, or suppliers.

(3) Upon the Owner's reasonable objection to a proposed Subcontractor, fabricator, or supplier, the Contractor shall promptly propose another to whom the Owner has no reasonable objection. If the proposed Subcontractor, fabricator, or supplier to whom the Owner made reasonable objection was reasonably capable of performing the Work, the Contract Sum and Contract Time shall be equitably adjusted by Contract Change Order for any resulting difference if the Contractor has acted promptly and responsively in this procedure.

(4) The Contractor shall not change previously selected Subcontractors, fabricators, or suppliers without notifying the Architect and Owner in writing of proposed substitute Subcontractors, fabricators, or suppliers. If the Owner does not make a reasonable objection to a proposed substitute within three working days, the substitute shall be deemed approved.

### **B. SUBCONTRACTUAL RELATIONS**

(1) The Contractor agrees to bind every Subcontractor and material supplier (and require every Subcontractor to so bind its subcontractors and material suppliers) to all the provisions of the Contract Documents as they apply to the Subcontractor's and material supplier's portion of the Work.

(2) Nothing contained in the Contract Documents shall be construed as creating any contractual relationship between any Subcontractor and the Owner, nor to create a duty of the Architect, Owner, or Director to resolve disputes between or among the Contractor or its Subcontractors and suppliers or any other duty to such Subcontractors or suppliers.

## **ARTICLE 42**

### **ARCHITECT'S STATUS**

- A. The Architect is an independent contractor performing, with respect to this Contract, pursuant to an agreement executed between the Owner and the Architect. The Architect has prepared the Drawings and Specifications and assembled the Contract Document and is, therefore, charged with their interpretation and clarification as described in the Contract Documents. As a representative of the Owner, the Architect will endeavor to guard the Owner against variances from the requirements of the Contract Documents by the Contractor. On behalf of the Owner, the Architect will administer the Contract as described in the Contract Documents during construction and the Contractor's one-year warranty.
- B. So as to maintain continuity in administration of the Contract and performance of the Work, and to facilitate complete documentation of the project record, all communications between the Contractor and Owner regarding matters of or related to the Contract shall be directed through the Architect, unless direct communication is otherwise required to provide a legal notification. Unless otherwise authorized by the Architect, communications by and with the Architect's consultants shall be through the Architect. Unless otherwise authorized by the Contractor, communications by and with Subcontractors and material suppliers shall be through the Contractor.

### **C. ARCHITECT'S AUTHORITY**

Subject to other provisions of the Contract Documents, the following summarizes some of the authority vested in the Architect by the Owner with respect to the Construction Contract and as further described or conditioned in other Articles of these General Conditions of the Contract.

**(1) The Architect is authorized to:**

- (a) approve "minor" deviations as defined in Article 9, Submittals,
- (b) make "minor" changes in the Work as defined in Article 19, Changes in the Work,
- (c) reject or require the correction of Defective Work,
- (d) require the Contractor to stop the performance of Defective Work,
- (e) adjust an Application for Payment by the Contractor pursuant to Article 30, Certification and Approval of payments, and
- (f) issue Notices to Cure pursuant to Article 27.

**(2) The Architect is not authorized to:**

- (a) revoke, alter, relax, or waive any requirements of the Contract Documents (other than "minor" deviations and changes) without concurrence of the Owner,
- (b) finally approve or accept any portion of the Work without concurrence of the Owner,
- (c) issue instructions contrary to the Contract Documents,
- (d) issue Notice of Termination or otherwise terminate the Contract, or
- (e) require the Contractor to stop the Work except only to avoid the performance of Defective Work.

### **D. LIMITATIONS of RESPONSIBILITIES**

- (1) The Architect shall not be responsible to Contractors or to others for supervising or coordinating the performance of the Work or for the Construction Methods or safety of the Work, unless the Contract Documents give other specific instructions concerning these matters.

(2) The Architect will not be responsible to the Contractor (nor the Owner) for the Contractor's failure to perform the Work in accordance with the requirements of the Contract Documents or for acts or omissions of the Contractor, a Subcontractor, or anyone for whose acts they may be liable. However, the Architect will report to the Owner and Contractor any Defective Work recognized by the Architect.

(3) The Architect will endeavor to secure faithful performance by Owner and Contractor, and the Architect will not show partiality to either or be liable to either for results of interpretations or decisions rendered in good faith.

(4) The Contractor's remedies for additional time or expense arising out of or related to this Contract, or the breach thereof, shall be solely as provided for in the Contract Documents. The Contractor shall have no claim or cause of action against the Owner, Architect, or its consultants for any actions or failures to act, whether such claim may be in contract, tort, strict liability, or otherwise, it being the agreement of the parties that the Contractor shall make no claim against the Owner or any agents of the Owner, including the Architect or its consultants, except as may be provided for claims or disputes submitted in accordance with Article 24. The Architect and Architect's consultants shall be considered third party beneficiaries of this provision of the Contract and entitled to enforce same.

**E. ARCHITECT'S DECISIONS**

Decisions by the Architect shall be in writing. The Architect's decisions on matters relating to aesthetic effect will be final and binding if consistent with the intent expressed in the Contract Documents. The Architect's decisions regarding disputes arising between the Contractor and Owner shall be advisory.

**ARTICLE 43**  
**CASH ALLOWANCES**

- A.** All allowances stated in the Contract Documents shall be included in the Contract Sum. Items covered by allowances shall be supplied by the Contractor as directed by the Architect or Owner and the Contractor shall afford the Owner the economy of obtaining competitive pricing from responsible bidders for allowance items unless other purchasing procedures are specified in the Contract Documents.
- B.** Unless otherwise provided in the Contract Documents:
- (1) allowances shall cover the cost to the Contractor of materials and equipment delivered to the Project site and all applicable taxes, less applicable trade discounts;
  - (2) the Contractor's costs for unloading, storing, protecting, and handling at the site, labor, installation, overhead, profit and other expenses related to materials or equipment covered by an allowance shall be included in the Contract Sum but not in the allowances;
  - (3) if required, the Contract Sum shall be adjusted by Change Order to reflect the actual costs of an allowance.
- C.** Any selections of materials or equipment required of the Architect or Owner under an allowance shall be made in sufficient time to avoid delay of the Work.

**ARTICLE 44**  
**PERMITS, LAWS, and REGULATIONS**

**A. PERMITS, FEES AND NOTICES**

(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 award of the Construction Contract and which are in effect on the date of receipt of bids.

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

**B. TAXES**

Unless stated otherwise in the Contract Documents, materials incorporated into the Work are exempt from sales and use tax pursuant to Section 40-9-33, Code of Alabama, 1975 as amended. The Contractor and its subcontractors shall be responsible for complying with rules and regulations of the Sales, Use, & Business Tax Division of the Alabama Department of Revenue regarding certificates and other qualifications necessary to claim such exemption when making qualifying purchases from vendors. The Contractor shall pay all applicable taxes that are not covered by the exemption of Section 40-9-33 and which are imposed as of the date of receipt of bids, including those imposed as of the date of receipt of bids but scheduled to go into effect after that date.

**C. COMPENSATION for INCREASES**

The Contractor shall be compensated for additional costs incurred because of increases in tax rates imposed after the date of receipt of bids.

**ARTICLE 45**  
**ROYALTIES, PATENTS, and COPYRIGHTS**

The Contractor shall pay all royalties and license fees. The Contractor shall defend, indemnify and hold harmless the Owner, Architect, Architect's consultants, Alabama Building Commission, State Department of Education (if applicable), and their agents, employees, and consultants from and against all claims, damages, losses and expenses, including but not limited to attorney's fees, arising out of, related to, or resulting from all suits or claims for infringement of any patent rights or copyrights arising out of the inclusion of any patented or copyrighted materials, methods, or systems selected by the Contractor and used during the execution of or incorporated into the Work. This indemnification does not apply to any suits or claims of infringement of any patent rights or copyrights arising out of any patented or copyrighted materials, methods, or systems specified in the Contract Documents. However, if the Contractor has information that a specified material, method, or system is or may constitute an infringement of a patent or copyright, the Contractor shall be responsible for any resulting loss unless such information is promptly furnished to the Architect.



**ARTICLE 46**  
**USE of the SITE**

- A. The Contractor shall confine its operations at the Project site to areas permitted by the Owner and by law, ordinances, permits and the Contract Documents and shall not unreasonably encumber the site with materials, equipment, employees' vehicles, or debris. The Contractor's operations at the site shall be restricted to the sole purpose of constructing the Work, use of the site as a staging, assembly, or storage area for other business which the Contractor may undertake shall not be permitted.
- B. Unless otherwise provided in the Contract Documents, temporary facilities, such as storage sheds, shops, and offices may be erected on the Project site with the approval of the Architect and Owner. Such temporary buildings and/or utilities shall remain the property of the Contractor, and be removed at the Contractor's expense upon completion of the Work, unless the Owner authorizes their abandonment without removal.

**ARTICLE 47**  
**CUTTING and PATCHING**

- A. The Contractor shall be responsible for all cutting, fitting, or patching that may be required to execute the Work to the results indicated in the Contract Documents or to make its parts fit together properly.
- B. Any cutting, patching, or excavation by the Contractor shall be supervised and performed in a manner that will not endanger persons nor damage or endanger the Work or any fully or partially completed construction of the Owner or separate contractors.

**ARTICLE 48**  
**IN-PROGRESS and FINAL CLEANUP**

**A. IN-PROGRESS CLEAN-UP**

(1) The Contractor shall at all times during the progress of the Work keep the premises and surrounding area free from rubbish, scrap materials and debris resulting from the Work. Trash and combustible materials shall not be allowed to accumulate inside buildings or elsewhere on the premises. At no time shall any rubbish be thrown from window openings. Burning of trash and debris on site is not permitted.

(2) The Contractor shall make provisions to minimize and confine dust and debris resulting from construction activities.

**B. FINAL CLEAN-UP**

(1) Before Substantial Completion or Final Acceptance is achieved, the Contractor shall have removed from the Owner's property all construction equipment, tools, and machinery; temporary structures and/or utilities including the foundations thereof (except such as the Owner permits in

writing to remain); rubbish, debris, and waste materials; and all surplus materials, leaving the site clean and true to line and grade, and the Work in a safe and clean condition, ready for use and operation.

(2) In addition to the above, and unless otherwise provided in the Contract Documents, the Contractor shall be responsible for the following special cleaning for all trades as the Work is completed:

- (a) **Cleaning of all painted, enameled, stained, or baked enamel work:** Removal of all marks, stains, finger prints and splatters from such surfaces.
- (b) **Cleaning of all glass:** Cleaning and removing of all stickers, labels, stains, and paint from all glass, and the washing and polishing of same on interior and exterior.
- (c) **Cleaning or polishing of all hardware:** Cleaning and polishing of all hardware.
- (d) **Cleaning all tile, floor finish of all kinds:** Removal of all splatters, stains, paint, dirt, and dust, the washing and polishing of all floors as recommended by the manufacturer or required by the Architect.
- (e) **Cleaning of all manufactured articles, materials, fixtures, appliances, and equipment:** Removal of all stickers, rust stains, labels, and temporary covers, and cleaning and conditioning of all manufactured articles, material, fixtures, appliances, and electrical, heating, and air conditioning equipment as recommended or directed by the manufacturers, unless otherwise required by the Architect; blowing out or flushing out of all foreign matter from all equipment, piping, tanks, pumps, fans, motors, devices, switches, panels, fixtures, boilers, sanitizing potable water systems; and freeing identification plates on all equipment of excess paint and the polishing thereof.

#### **C. OWNER'S RIGHT to CLEAN-UP**

If the Contractor fails to comply with these clean-up requirements and then fails to comply with a written directive by the Architect to clean-up the premises within a specified time, the Architect or Owner may implement appropriate clean-up measures and the cost thereof shall be deducted from any amounts due or to become due the Contractor.

### **ARTICLE 49** **LIQUIDATED DAMAGES**

- A. Time is the essence of the Contract. Any delay in the completion of the Work required by the Contract Documents may cause inconvenience to the public and loss and damage to the Owner including but not limited to interest and additional administrative, architectural, inspection and supervision charges. By executing the Construction Contract, the Contractor agrees that the Contract Time is sufficient for the achievement of Substantial Completion.
- B. The Contract Documents may provide in the Construction Contract or elsewhere for a certain dollar amount for which the Contractor and its Surety (if any) will be liable to the Owner as liquidated damages for each calendar day after expiration of the Contract Time that the Contractor fails to achieve Substantial Completion of the Work. If such daily liquidated damages are provided for, Owner and Contractor, and its Surety, agree that such amount is reasonable and agree to be bound thereby.

- C. If a daily liquidated damage amount is not otherwise provided for in the Contract Documents, a time charge equal to six percent interest per annum on the total Contract Sum may be made against the Contractor for the entire period after expiration of the Contract Time that the Contractor fails to achieve Substantial Completion of the Work.
- D. The amount of liquidated damages due under either paragraph B or C, above, may be deducted by the Owner from the moneys otherwise due the Contractor in the Final Payment, not as a penalty, but as liquidated damages sustained, or the amount may be recovered from Contractor or its Surety. If part of the Work is substantially completed within the Contract Time and part is not, the stated charge for liquidated damages shall be equitably prorated to that portion of the Work that the Contractor fails to substantially complete within the Contract Time. It is mutually understood and agreed between the parties hereto that such amount is reasonable as liquidated damages.

## **ARTICLE 50**

### **USE of FOREIGN MATERIALS**

- A. In the performance of the Work the Contractor agrees to use materials, supplies, and products manufactured, mined, processed or otherwise produced in the United States or its territories, if same are available at reasonable and competitive prices and are not contrary to any sole source specification implemented under the Public Works Law.
- B. In the performance of the Work the Contractor agrees to use steel produced in the United States if the Contract Documents require the use of steel and do not limit its supply to a sole source pursuant to the Public Works Law. If the Owner decides that the procurement of domestic steel products becomes impractical as a result of national emergency, national strike, or other cause, the Owner shall waive this restriction.
- C. If domestic steel or other domestic materials, supplies, and products are not used in accordance with preceding Paragraphs A and B, the Contract Sum shall be reduced by an amount equal to any savings or benefits realized by the Contractor.
- D. This Article applies only to Public Works projects financed entirely by the State of Alabama or any political subdivision of the state.

## **ARTICLE 51**

### **PROJECT SIGN**

(Not required for locally-funded SDE projects.)

If the Contract Sum (as awarded) is \$100,000.00 or more, the Contractor shall furnish and erect a project sign as shown in "Detail of Project Sign" (ABC Form C-15) bound in the Project Manual. The project sign shall be erected in a prominent location selected by the Architect and Owner and shall be maintained in good condition until completion of Work. If the Contract involves Work on multiple sites, only one sign is required, which shall be erected on one of the sites in a location selected by the Architect and Owner.

**SUPPLEMENT  
to the  
GENERAL CONDITIONS of the CONTRACT**

1. Article 19 "Changes in the Work", Paragraph B (1) is modified as follows:

**(1) Lump Sum.** By mutual agreement to a lump sum based on or negotiated from an itemized cost proposal from the Contractor. Additions to the Contract Sum shall include the Contractor's direct costs plus a maximum 15% markup for overhead and profit. Where subcontract work is involved the total mark-up for the Contractor and a Subcontractor shall not exceed 25%. ~~No allowance for overhead and profit shall be figured on a change which involves a net credit to the Owner.~~ **Changes which involve a net credit to the Owner shall include credits for overhead and profit on the deducted work. Changes involving a net credit that do not include overhead and profit shall be justified by the Architect, approved by the Owner, and must also be approved by the Director.** For the purposes of this method of determining an adjustment of the Contract Sum, "overhead" shall cover the Contractor's indirect costs of the change, such as the cost of bonds, superintendent and other job office personnel, watchman, job office, job office supplies and expenses, temporary facilities and utilities, and home office expenses.

2. Article 19 "Changes in the Work", Paragraph B (3) (f) is modified as follows:

**(3) Force Account.** By directing the Contractor to proceed with the change in the Work on a "force account" basis under which the Contractor shall be reimbursed for reasonable expenditures incurred by the Contractor and its Subcontractors in performing added Work and the Owner shall receive reasonable credit for any deleted Work. The Contractor shall keep and present, in such form as the Owner may prescribe, an itemized accounting of the cost of the change together with sufficient supporting data. Unless otherwise stated in the directive, the adjustment of the Contract Sum shall be limited to the following:

- (a)** costs of labor and supervision, including employee benefits, social security, retirement, unemployment and workers' compensation insurance required by law, agreement, or under Contractor's or Subcontractor's standard personnel policy;
- (b)** cost of materials, supplies and equipment, including cost of delivery, whether incorporated or consumed;
- (c)** rental cost of machinery and equipment, not to exceed prevailing local rates if contractor-owned;
- (d)** costs of premiums for insurance required by the Contract Documents, permit fees, and sales, use or similar taxes related to the change in the Work;
- (e)** reasonable credits to the Owner for the value of deleted Work, without Contractor or Subcontractor mark-ups; and
- (f)** for additions to the Contract Sum, mark-up of the Contractor's direct costs for overhead and profit not exceeding 15% on Contractor's work nor exceeding 25% for Contractor and Subcontractor on a Subcontractor's work. ~~No allowance for overhead and profit shall be figured on a change which involves a net credit to the Owner.~~ **Changes which involve a net credit to the Owner shall include credits for overhead and profit on the deducted work. Changes involving a net credit that do not include overhead and profit shall be justified by the Architect, approved by the Owner, and must also be approved by the Director.** For the purposes of this method of determining an adjustment of the Contract Sum, "overhead" shall cover the Contractor's indirect costs of the change, such as the cost of insurance other than mentioned above, bonds, superintendent and other job office personnel, watchman, use and rental of small tools, job office, job office supplies and expenses, temporary facilities and utilities, and home office expenses.

END of SUPPLEMENT to the  
GENERAL CONDITIONS of the CONTRACT

## SECTION 00800

### SUPPLEMENTARY CONDITIONS OF THE CONTRACT

#### PART 1 GENERAL

##### 1.01 PURPOSE

- A. The changes, deletions and omissions to ABC Form C-8, General Conditions of the Contract, relate to the limited contract period of the project, Boiler Replacement at School of Engineering for Alabama A&M University
1. Article 16 - Inspection of the Work: Add Paragraph G: Follow-up observations will be performed by the Architect or Architect's Consultant each time a punchlist is generated to ensure that punchlist items have been corrected. The cost of additional observations required due to incomplete correction of punchlist items will be the responsibility of the Contractor at the rate of \$150.00 per hour, including travel time.  
Shop Drawings and/or submittals requiring resubmission to the Architect due to non-compliance with the Contract Documents and /or incompleteness shall be thoroughly reviewed by the Contractor prior to delivery to the Architect for review. The Contractor shall ensure the completeness and compliance of the submittal materials. Cost incurred by the Owner for review of submittals after the second submittal is rejected will be the responsibility of the Contractor at the rate indicated in the paragraph above.
  2. Article 23 - Delays: Paragraph B (2) - delete in its entirety. Time extensions as they relate to weather are outlined in the appendix "WEATHER DELAYS" attached hereto.
  3. Article 29 - Schedule of Values: Add Article 29 in "Appendix E" attached hereto.
  4. Article 37 - Insurance(s): Delete in their entirety. Insert Article 37 in "Appendix B" attached hereto.
  5. Article 44 - Permits, Laws, and Regulations,
    - a. Paragraph A - Permits, Fees, and Notices - The General Contractor is not required to secure and pay for a building permit from the local inspection department.
    - b. Paragraph A – Add subparagraph (1) (a) to read as follows, "Public Works Projects Bidding After October 1, 2014, the General Contractor shall secure and pay for building permit fee required under Administrative Rule 170X-8 of The Alabama Building Commission. See attached Permit Fee Calculation Worksheet."
    - c. Paragraph A - Add subparagraph (3) to read as follows, "Alabama laws require that, as a condition for the award of a contract by a school board to a business entity or employer with one or more employees working in Alabama, the business entity or employer must provide documentation of enrollment in the E-Verify program. During the performance of the contract, the business entity or employer shall participate in the E-Verify program and shall verify every employee that is required to be verified according to the applicable federal rules and regulations. The contractor's E-Verify Memorandum of Understanding must be included with the bid. If you do not believe these requirements are applicable to your entity, include an explanation justifying such exemption. An entity can obtain the E-Verify Memorandum of Understanding upon completion in the E-Verify enrollment process located at the federal web site [www.uscis.gov/everify](http://www.uscis.gov/everify). The Alabama Department of Homeland Security (<http://immigration.alabama.gov>) has also established an E-Verify employer agent account for any business entity or employer with 25 or fewer employees that will provide a participating business entity or employer with the required documentation of enrollment in the E-Verify program. An Employer Identification Number (EIN), also known as a Federal Tax Identification Number, is required to enroll in E-Verify or to establish an E-Verify employer agent account."
    - d. Paragraph B - Taxes – replace this paragraph in its entirety with the following, "Taxes: Notice of Sales & Use Tax Exemption: Materials incorporated into the Work are exempt from sales and use tax pursuant to Alabama Act No. 2013-205 (effective

October 1, 2013). The Contractor and its subcontractors shall be responsible for complying with rules and regulations of the Sales, Use, and Business Tax Division of the Alabama Department of Revenue regarding certificates and other qualifications necessary to claim such exemption when making qualifying purchases from vendors. The Owner shall not consider claims for additional costs resultant of the contractor's, or its subcontractors', failure to comply with such rules and regulations."

6. Article 49 - Liquidated Damages: Add Article 49 in "Appendix C" attached hereto.

**PART 2 PRODUCTS - NOT USED**

**PART 3 EXECUTION - NOT USED**

**END OF SECTION**

# APPLICATION and CERTIFICATE for PAYMENT

Attach Schedule of Values

ESTIMATE No. \_\_\_\_\_

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

B.C. No. \_\_\_\_\_

<b>TO OWNER:</b> Alabama A&M University 4900 Meridian Street Normal, AL 35762 Telephone 256-372-5829	<b>PROJECT:</b> Boiler Replacement at School of Engineering for Alabama A & M University
<b>FROM CONTRACTOR:</b>  <b>FEIN</b> _____	<b>TO: ARCHITECT</b> Mims Engineering, Inc. 112B Southside Square Huntsville, AL 35801 Telephone 256-881-4126

TOTAL ORIGINAL CONTRACT		\$ _____
CHANGE ORDER(S)	Numbers _____ through _____	\$ _____
TO CONTRACT TO DATE		\$ _____

1.	Brought Forward: TOTAL CONTRACT TO DATE..... \$ _____	\$ _____
	AMOUNT COMPLETE ..... %	\$ _____
2.	Stored Materials per the attached inventory of Stored Materials.....	\$ _____
3.	Total Completed Work and Stored Materials .....	\$ _____
4.	Less Retainage.....	\$ _____
5.	Total Completed Work and Stored Materials, less Retainage .....	\$ _____
6.	Less credits to Owner for the "Totals To Date" amounts in the referenced Columns of attached MATERIALS INVOICE SUMMARY NO. _____ : .....	\$ _____
	a. Owner's portion of Cash Discounts: Column No. 4 (\$ _____ ) X 50% .....	\$ _____
	b. Owner's Payments for Materials: Column No. 5 .....	\$ _____
	c. Sales & Use Tax Savings: Column No., 6 .....	\$ _____
7.	Total Due .....	\$ _____
8.	Less Total Previous Payments to Contractor.....	\$ _____
9.	Balance Due This Estimate .....	\$ _____

## CONTRACTOR'S CERTIFICATION

The undersigned Contractor certifies that to the best of his knowledge, information, and belief the Work covered by this Application for Payment has been completed in accordance with the Contract Documents, that all amounts have been paid by him for Work for which previous Certificates for Payments were issued and payments received from the Owner and that current payment shown herein has not yet been received.

By \_\_\_\_\_ Date \_\_\_\_\_

(Title)

Sworn and subscribed before me this \_\_\_\_\_ day of \_\_\_\_\_

L. S.

Notary Public

## ARCHITECT'S CERTIFICATION

In accordance with the Contract Documents, the Architect certifies to the Owner that, to the best of the Architect's knowledge and belief, the Work has progressed to the point indicated herein, the quality of the Work is in accordance with the Contract Documents, and the Contractor is entitled to payment of the amount approved.

(Architect)

By \_\_\_\_\_

Date \_\_\_\_\_

## REVIEW AND APPROVALS

Approved by _____	_____	Date _____
(Owner)	Signature	

Approved by _____	_____	Date _____
	Signature	



For Estimate No. \_\_\_\_\_

For Period Ending \_\_\_\_\_

A	B	C	D	E	F
DESCRIPTION	MATERIALS STORED LAST PERIOD	PURCHASED THIS PERIOD	TOTAL COLUMNS B + C	MATERIALS USED THIS PERIOD	MATERIALS PRESENTLY STORED

Page \_\_\_\_ of \_\_\_\_

<b>PROGRESS SCHEDULE AND REPORT</b> <b>PROJECT : Boiler Replacement at School of Engineering for Alabama A&amp;M University</b>	<b>CONTRACTOR:</b>	DATE OF REPORT
	<b>ARCHITECT:</b> <b>Mims Engineering, Inc.</b> <b>112B Southside Square</b> <b>Huntsville, AL 35801</b>	PROCEED DATE
		PROJECTED COMPLETION DATE

WORK DIVISION	%	AMOUNT													
1. GENERAL REQUIREMENTS															
2. SITEWORK															
3. CONCRETE															
4. MASONRY															
5. METALS															
6. WOOD AND PLASTIC															100%
7. THERMAL AND MOISTURE PROTECTION															90%
8. DOORS AND WINDOWS															80%
9. FINISHES															70%
10. SPECIALTIES															60%
11. EQUIPMENT															50%
12. FURNISHINGS															40%
13. SPECIAL CONSTRUCTION															30%
14. CONVEYING SYSTEMS															20%
15. MECHANICAL															10%
16. ELECTRICAL															0%
TOTAL ORIG. CONTRACT	100%														
ANTICIPATED DRAW IN \$1,000															
ACTUAL DRAW IN \$1,000															

**LEGEND:**     ANTICIPATED ACTIVITY     ACTUAL ACTIVITY     ANTICIPATED CASH FLOW     ACTUAL CASH FLOW    USE ADDITIONAL SHEETS IF JOB IS SCHEDULED MORE THAN 12 MONTHS

# CONTRACT CHANGE ORDER

Change Order No. \_\_\_\_\_ Date \_\_\_\_\_ B.C.No. \_\_\_\_\_

<b>TO:</b> (Contractor)	<b>PROJECT:</b> Boiler Replacement at School of Engineering for Alabama A&M University
-------------------------	--

TERMS: You are hereby authorized, subject to the provisions of your Contract for this project, to make the following changes thereto in accordance with your proposal(s) dated \_\_\_\_\_

FURNISH the necessary labor, materials, and equipment to (Description of work to be done or changes to be made.) \_\_\_\_\_

ORIGINAL CONTRACT SUM \$ \_\_\_\_\_  
NET TOTAL OF PREVIOUS CHANGE ORDERS \$ \_\_\_\_\_  
PREVIOUS REVISED CONTRACT SUM \$ \_\_\_\_\_  
THIS CHANGE ORDER WILL ☐ INCREASE ☐ DECREASE  
THE CONTRACT SUM BY \$ \_\_\_\_\_  
REVISED CONTRACT SUM, INCLUDING THIS CHANGE ORDER \$ \_\_\_\_\_

EXTENSION OF TIME resulting from this Change Order \_\_\_\_\_ (Insert "None" or No. of days)

The Owner does hereby certify that this Change Order was executed in accordance with the provisions of Title 39, Code of Alabama, 1975, as amended.

## CONSENT OF SURETY

## CONTRACTING PARTIES

\_\_\_\_\_  
(Company)  
By \_\_\_\_\_ Contractor  
(Attach current Power of Attorney)  
Name & Title \_\_\_\_\_

## RECOMMENDED

By \_\_\_\_\_  
Architect

## APPROVALS

STATE OF ALABAMA BUILDING COMMISSION  
(Not required for locally-funded SDE projects)

\_\_\_\_\_  
(Awarding Authority)

By \_\_\_\_\_  
Director, Technical Staff  
By \_\_\_\_\_  
Name & Title \_\_\_\_\_

By \_\_\_\_\_



STATE OF ALABAMA  
**BUILDING COMMISSION**

770 WASHINGTON AVE  
SUITE 444  
Montgomery, Alabama 36130-1150  
Telephone: (334) 242-4082  
Fax: (334) 242-4182

ROBERT BENTLEY  
Governor

Katherine Lynn  
Director

September 29, 2014

**TO: STATE AGENCIES, K-12 SUPERINTENDENTS, COMMUNITY COLLEGES, UNIVERSITIES, OWNERS OF PRIVATE SCHOOLS, HOTELS AND MOTELS, AND MOTION-PICTURE THEATRES**

**FROM: KATHERINE LYNN, DIRECTOR  
ALABAMA BUILDING COMMISSION**

**SUBJECT: ADMINISTRATIVE RULE 170X-8 COLLECTION OF USER FEES**

The Alabama Building Commission has adopted a new rule, Administrative Rule 170X-8 Collection of User Fees, which will go into effect October 1, 2014. The full text of Administrative Rule 170X-8 is available on the Building Commission's website at [www.bc.alabama.gov](http://www.bc.alabama.gov).

**Summary**

A brief summary of the Administrative Rule is provided below:

Plan Review Fee: A plan review fee will be required for plans submitted after October 1, 2014. An initial plan review fee of 50% not to exceed \$500 will be due at the preliminary or schematic submittal and a final plan review fee for the remaining balance will be due upon receipt of the final plan submittal. No additional fee will be charged for the first revised final submittal. Additional revised final reviews (after the first revised final submittal) shall be subject to a fee equal to 15% of the final plan review fee not to exceed \$2000.

Permit Fee: A permit fee will be required for projects inspected by the Building Commission and bidding after October 1, 2014. The permit fee is outlined in the Administrative Rule 170X-8.

Contract Administration Fee: A construction administration fee will be required for construction contracts reviewed and administered by the Building Commission. The fee is equal to ½ of 1% of the construction contract amount. In general, the construction administration fee will apply to state agencies, community colleges and PSCA-funded projects. The construction administration fee will not apply to locally-funded K-12 projects or locally-funded higher education projects.

## **Plan Review Fees**

### **Plans Submitted for Review before October 1, 2014**

Final plans submitted before October 1, 2014 are exempt from the plan review fee. The first revised final submitted after October 1, 2014 will not be subject to the plan review fee but additional revised finals will be subject to the additional revised final review fee of 15% of the final review fee not to exceed \$2000.

### **Plans Submitted for Review after October 1, 2014**

Schematic, preliminary or final plans submitted after October 1, 2014 are subject to the plan review submittal fee. Plans submitted after October 1, 2014 are not eligible to receive an initial plan review credit even if the schematic or preliminary plans were received prior to October 1, 2014.

### **Payment of Plan Review Fees**

Plan review fee may be paid directly to the Building Commission by the Owner or, at the Owner's request, may be submitted by the architect and reimbursed to the architect by the Owner.

If submitting checks to the Building Commission, the architect must print two copies of the plan review fee form. One copy must be attached to the B-1 submittal form submitted with the plans. The other copy shall be given to the Owner and the Owner shall attach the check to the plan review fee form and submit to the Building Commission.

The 30-day review period begins on the date payment is received. The plan review fee will be refunded to the Owner for reviews not completed within 30 days.

## **Permit Fees**

### **Public Works Projects Bidding After October 1, 2014**

ABC Form C-8, "General Conditions of the Construction Contract", Article 44, Para. A, states the following:

*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 all inspections necessary for proper execution and completion of the Work which are customarily secured after award of the Construction Contract and which are in effect on the date of receipt of bids.*

For public works projects falling under the Building Commission's jurisdiction and bid after October 1, 2014, the design professional shall include a copy of the Building Commission's user fee schedule in the project manual and specify that the permit fee is to be included in the contractor's bid and paid by the Contractor.

At the Owner's option, the Owner may pay the permit fee directly to the Building Commission. However, the Pre-construction Conference cannot be held until both (1) the permit fee and (2) the signed construction contract have been received by the Building Commission.

### **Scheduling of Inspections**

The contractor will contact the design professional by e-mail of the date the project will be ready for an inspection.

The design professional will contact the Building Commission (BC) Inspector to schedule the first available date for the inspection. Inspections must be requested 14 days in advance.

When the BC Inspector confirms the inspection time, the design professional will send an e-mail confirming the inspection time and date. The e-mail must be sent to the contractor, BC Inspector, owner and the BC main office ([jennie.jones@bc.alabama.gov](mailto:jennie.jones@bc.alabama.gov)). All requests for inspections must come from the design professional and sent to the BC Inspector with copies to the contractor, owner, and BC main office ([jennie.jones@bc.alabama.gov](mailto:jennie.jones@bc.alabama.gov)).

Cancellations of any scheduled inspection must be received in writing by e-mail no less than 48 hours prior to the scheduled inspection. The e-mail must be sent to the contractor, BC inspector, owner and the BC main office ([jennie.jones@bc.alabama.gov](mailto:jennie.jones@bc.alabama.gov)). If an inspection is cancelled, it will be rescheduled subject to the BC Inspector's availability.

If an inspection is cancelled less than 48 hours prior to the scheduled inspection, the re-inspection fee of \$1500 will be charged.

### **Minimum Requirements for Required Inspections**

The following minimum requirements listed below are provided to aid the contractors and architects in determining if a project is ready for a required inspection.

#### **Pre-Construction Conference**

Required Attendees: Contractor, Owner, Architect, Major Subcontractors

Inspection Requirements:

- Signed construction contract
- Verification of payment of permit fee
- Contractor's Statement of Responsibility and Quality Assurance Plan (for storm shelter)
- Fire Alarm Contractor's Certification (from State Fire Marshal)
- ADEM permit, if more than 1 acre of land is disturbed

#### **Pre-Construction Conference for Storm Shelter**

Required Attendees: Contractor, Owner, Architect, Structural Engineer, Major Subcontractors, Special Inspections Representative

Inspection Requirements:

- BC Inspector must have already received Contractor's Statement of Responsibility and Quality Assurance Plan

#### **Pre-Roofing Conference**

Required Attendees: Contractor, Owner, Architect, Roofing Subcontractor, Roofing Manufacturer's Representative

Inspection Requirements:

- Roofing submittals **must be approved by the architect** prior to pre-roofing conference
- Roofing manufacturer must provide documentation that roof design and roofing materials meet code requirements for wind uplift and impact resistance
- Copy of sample roofing warranty

#### Above-Ceiling Inspections

Required Attendees: Contractor, Owner, Architect, MEP Engineers, Major Subcontractors

Inspection Requirements:

- All work must be completed except for installation of ceiling tiles and/or hard ceilings
- Space must be conditioned
- Permanent power must be connected unless otherwise arranged with the BC Inspector
- Grease duct must be inspected and approved by the BC Inspector prior to fire wrapping and Above-Ceiling Inspection

#### Life Safety Inspections and Final Inspections

Required Attendees: Contractor, Owner, Architect, Engineers, Major Subcontractors, Local Fire Marshal

Inspection Requirements:

- Fire alarm certification
- Kitchen hood fire suppression system certification
- General Contractor's 5-Year Roofing Warranty (ABC Form C-9)
- Roofing manufacturer's guaranty
- Above ground and below ground sprinkler certifications
- Completed Certificate of Structural Engineer's Observations for storm shelters
- Emergency and exit lighting tests
- **Fire alarm must be monitored**
- Elevator Inspection completed and Certificate of Operation provided by the State of Alabama Department of Labor
- Boiler/Vessels Inspection completed and Certificate of Operation provided by the State of Alabama Department of Labor
- Flush test for underground sprinkler lines (witnessed by local fire marshal, fire chief and/or BC Inspector)
- Flush/pressure test for new and/or existing fire hydrants
- Must have clear egress/access and emergency (for first responders) access to building
- Must have ADA access completed

#### Year-End Inspections

Required Attendees: Contractor, Owner, Architect, Engineers and/or Major subcontractors may also be required to attend

Inspection Requirements:

- Owner's list of documented warranty items

### **Contract Administration Fee**

The contract administration fee is applicable only to projects where the contract documents (Owner-Architect agreements, amendments, construction contracts, change orders and modifications) are reviewed, approved and administered by the Building Commission. In general, this includes state agencies, community colleges, PSCA-funded projects and other bond funded projects. The construction administration fee is not applicable to locally-funded K-12 projects or locally-funded higher education projects which are not reviewed by the Building Commission.

The contract administration fee shall be due as follows:

- Half of the fee will be due upon receipt of the Owner-Architect Agreement. The fee shall be equal to  $\frac{1}{4}$  of 1% of the estimated Cost of the Work.
- Half of the fee will be due upon receipt of the Construction Contract. The fee shall be equal to  $\frac{1}{4}$  of 1% of the Construction Contract amount.

### **Final Reconciliation**

A request for the contractor's final pay application will be sent to the Owner with the executed Certificate of Substantial Completion. An invoice for the final reconciliation of the plan review fee and permit fee shall be sent to the Owner after the contractor's final pay application is received. Payment for the final reconciliation of the permit fee, the plan review fee, and contract administration fee (if applicable) must be received prior to the year-end inspection.

### **Payment Options**

- Fees may be paid by check or money order mailed directly to the Building Commission
- An option to make on-line payments will be available through the Building Commission's website in early October 2014. On-line payments may be made by credit card or by e-check. Credit card transactions will be charged an additional 3.5% surcharge and e-check transactions will be charged an additional \$3 per transaction (must be drawn from a U.S. banking institution).
- Electronic payments can only be made for each individual project and cannot be combined for multiple projects.
- State agencies who wish to pay using inter-agency transfer must contact Chris McCracken at 334-353-3205 or [chris.mccracken@bc.alabama.gov](mailto:chris.mccracken@bc.alabama.gov) or Jennie Jones at 334-242-4808 or [jennie.jones@bc.alabama.gov](mailto:jennie.jones@bc.alabama.gov).

If you have any questions, please contact Katherine Lynn at the Alabama Building Commission at (334) 242-4082 or by e-mail at [Katherine.lynn@bc.alabama.gov](mailto:Katherine.lynn@bc.alabama.gov).

cc: Mr. Ben Albritton, Assistant Attorney General



TO: **STATE OF ALABAMA**  
**BUILDING COMMISSION**  
770 Washington Avenue, Suite 444  
Montgomery, AL 36130-1150  
(334) 242-4082 FAX (334) 242-4182

# CERTIFICATE OF SUBSTANTIAL COMPLETION

**ROUTING PROCEDURES** ON REVERSE SIDE

**BC#** \_\_\_\_\_

<b>OWNER(S):</b> Alabama A&M University 4900 Meridian Street Normal, AL 35762 Telephone 256-372-5829	<b>ARCHITECT:</b> Mims Engineering, Inc. 112B Southside Square Huntsville, AL 35801 Telephone 256-881-4126
<b>CONTRACTOR:</b>	<b>BONDING COMPANY:</b>
<b>PROJECT</b> Boiler Replacement at School of Engineering for Alabama A&M University	

**Substantial Completion** has been achieved for ☐ the entire Work ☐ the following portion of the Work \_\_\_\_\_

The **Date of Substantial Completion** of the Work covered by this certificate is established to be \_\_\_\_\_.

"Substantial Completion" means the designated Work is sufficiently complete, in accordance with the Contract Documents, such that the Owner may occupy or utilize the Work for its intended use without disruption or interference by the Contractor in completing or correcting any remaining unfinished Work. The Date of Substantial Completion is the date upon which all warranties for the designated Work commence, unless otherwise agreed and recorded herein.

**Punch List:** A \_\_\_\_\_ page list of items to be completed or corrected prior to the Owner's approval of Final Payment is attached hereto, but does not alter the Contractor's responsibility to complete or correct all Work in full compliance with the Contract Documents. The Contractor shall complete or correct all items on the attached list, ready for re-inspection for Final Acceptance, within 30 days after the above Date of Substantial Completion, unless another date is stated here: \_\_\_\_\_. If completed or corrected within this period, warranties of these items commence on the Date of Substantial Completion, otherwise such warranties commence on the date of Final Acceptance of each item.

**Only one (1) originally executed substantial completion form should be routed for signature. B.C. office will forward the original to the Owner and provide copies to all other parties.**

<b>RECOMMENDED BY:</b>  ARCHITECT: _____  <b>CONTRACTING PARTIES:</b> CONTRACTOR _____ OWNER _____  <b>APPROVALS:</b> BUILDING COMM.INSPECTOR: _____ BUILDING COMM. CHIEF INSPECTOR: _____ BUILDING COMM. DIRECTOR: _____	DATE: _____  DATE: _____ DATE: _____ DATE: _____  DATE: _____ DATE: _____ DATE: _____
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# **CERTIFICATE OF SUBSTANTIAL COMPLETION ROUTING PROCEDURE**

**Only one (1) originally executed substantial completion form should be routed for signature. B.C. office will forward the original to the owner and provide copies to all other parties.**

**ARCHITECT/ENGINEER:** Please forward to Contractor after signature and date. Please provide Owner with local B.C. Inspector's name & home address.

**CONTRACTOR:** Please forward to Owner after signature and date.

**OWNER:** Please forward to local B.C. Inspector's home address after signature and date. You may contact B.C. office at (334) 242-4082 if B.C. Inspector's name/address is needed.

**B.C. INSPECTOR:** Will forward document to B.C. office for review and distribution.

## **NOTICE**

**THE EXECUTED "GENERAL CONTRACTOR'S ROOFING GUARANTEE" (ABC Form C-9) AND ANY OTHER ROOFING WARRANTY REQUIRED BY THE CONTRACT MUST ACCOMPANY THIS CERTIFICATE TO OBTAIN ABC APPROVAL.**

## FORM OF ADVERTISEMENT FOR COMPLETION

### LEGAL NOTICE

In accordance with Chapter 1, Title 39, Code of Alabama, 1975, notice is hereby given  
that \_\_\_\_\_,  
(Contractor)

Contractor, has completed the Contract for (Construction) (Renovation) (Alteration) (Equipment)  
(Improvement) of Boiler Replacement at Carver Complex for A&M University

at \_\_\_\_\_  
(Insert location data in County or City)

for the State of Alabama and the (County) (City) of \_\_\_\_\_  
\_\_\_\_\_, Owner(s), and have made request for final  
settlement of said Contract. All persons having any claim for labor, materials, or otherwise in  
connection with this project should immediately notify \_\_\_\_\_  
\_\_\_\_\_

\_\_\_\_\_  
(Architect)

\_\_\_\_\_  
(Contractor)

\_\_\_\_\_  
(Business Address)

NOTE: This notice must be run once a week for four successive weeks for projects  
exceeding \$50,000.00, for projects of less than \$50,000.00, run one time only.  
Proof of publication is required.

## **SECTION 00800 - APPENDIX A**

### **SUPPLEMENTARY CONDITIONS OF THE CONTRACT - WEATHER DELAYS**

#### **EXTENSIONS OF CONTRACT TIME**

Extension of time on the basis of weather may be granted only for the number of Weather Delay Days in excess of the number of days listed as the Standard baseline for the month.

#### **STANDARD BASELINE FOR AVERAGE CLIMATIC RANGE**

Based on weather data available from the National Oceanic and Atmospheric Administration a Standard Baseline of average climatic range for North Alabama has been determined.

Standard Baseline shall be regarded as the normal and anticipatable number of calendar days for each month during which construction activity shall be expected to be prevented and suspended by cause of adverse weather. Suspension of construction activity for the number of days each month as listed in the Standard Baseline is included in the Work and is not eligible for extension of Contract Time.

Standard Baseline is as follows:

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
12	11	08	07	07	06	07	05	04	05	06	11

#### **ADVERSE WEATHER AND WEATHER DELAY DAYS**

Adverse Weather is defined as the occurrence of one or more of the following conditions which prevents exterior construction activity or access to the site within twenty-four (24) hours:

1. Precipitation (rain, snow, or ice) in excess of one-tenth (0.10") liquid measure.
2. Temperatures which do not rise above 32°F by 10:00 a.m.
3. Temperatures which do not rise above that specified by day's construction activity by 10:00 a.m., if any are specified.
4. Sustained wind in excess of twenty-five (25) m.p.h.
5. Standing snow in excess of one inch (1.00")

Adverse Weather may include, if appropriate, "dry-out" or "mud" days when all the following conditions are met:

1. For rain days above the standard baseline.
2. Only if there is a hindrance to site access or sitework, such as excavation backfill, and footings.
3. At a rate no greater than 1 make-up day for each day or consecutive days or rain beyond the standard baseline that totals 1.0 inch or more, liquid measure, unless specifically recommended otherwise by the Designer.

A Weather Delay Day may be counted if adverse weather prevents work on the project for fifty percent (50%) or more of the contractor's scheduled work day, including a weekend day or holiday.

**REPORTING OF WEATHER DELAYS**

Contractor will provide written notice to the Architect, by fax, of a day claimed as a potential basis for delay. Notice of a potential basis for delay must be received by the Architect by 9:00 a.m. on the day immediately following the day claimed. At the end of the month the total days claimed will be compared to the Standard Baseline. Bad weather days exceeding the days indicated on the Standard Baseline will be granted as an extension of time.

**END OF APPENDIX A**

## **SECTION 00800 - APPENDIX B**

### **SUPPLEMENTARY CONDITIONS OF THE CONTRACT - ARTICLE 37**

#### **37. CONTRACTOR'S and SUBCONTRACTORS' INSURANCE**

##### **A. GENERAL**

1. **RESPONSIBILITY.** The Contractor shall be responsible to the Owner from the time of the signing of the Construction Contract or from the beginning of the first work, whichever shall be earlier, for all injury or damage of any kind resulting from any negligent act or omission or breach, failure or other default regarding the work by the Contractor, a Subcontractor, anyone directly or indirectly employed by them or anyone for whose acts they may be liable, regardless of who may be the owner of the property.
2. **INSURANCE PROVIDERS.** Each of the insurance coverages required below shall be issued by an insurer licensed by the Insurance Commissioner to transact the business of insurance in the State of Alabama for the applicable line of insurance, and such insurer (or, for qualified self-insureds or group self-insureds, a specific excess insurer providing statutory limits) must have a Financial Strength Rating of "A-" or better and a financial size category (FSC) rating of Class V or larger.
3. **NOTIFICATION ENDORSEMENT.** Each policy shall be endorsed to provide that the insurance company agrees that the policy shall not be cancelled, changed, allowed to lapse or allowed to expire for any reason until thirty days after the Owner has received written notice by certified mail as evidenced by return receipt or until such time as other insurance coverage providing protection equal to protection called for in the Contract Documents shall have been received, accepted and acknowledged by the Owner. Such notice shall be valid only as to the Project as shall have been designated by Project Name and Number in said notice.
4. **INSURANCE CERTIFICATES.** The Contractor shall procure the insurance coverages identified below, or as otherwise required in the Contract Documents, at the Contractor's own expense, and to evidence that such insurance coverages are in effect, the Contractor shall furnish the Owner an insurance certificate(s) acceptable to the Owner and listing the Owner as the certificate holder. The insurance certificate(s) must be delivered to the Owner with the Construction Contract and Bonds for final approval and execution of the Construction Contract. The insurance certificate must provide the following:
  - a. Name and address of authorized agent of the insurance company
  - b. Name and address of insured
  - c. Name of insurance company or companies
  - d. Description of policies
  - e. Policy Number(s)
  - f. Policy Period(s)
  - g. Limits of liability
  - h. Name and address of Owner as certificate holder
  - i. Project Name and Number, if any
  - j. Signature of authorized agent of the insurance company
  - k. Telephone number of authorized agent of the insurance company
  - l. Mandatory thirty day notice of cancellation / non-renewal / change

5. MAXIMUM DEDUCTIBLE. Self-insured retention, except for qualified self-insurers or group self-insurers, in any policy shall not exceed \$25,000.00.

**B. INSURANCE COVERAGES**

Unless otherwise provided in the Contract Documents, the Contractor shall purchase the types of insurance coverages with liability limits not less than as follows:

1. **WORKERS' COMPENSATION AND EMPLOYER'S LIABILITY INSURANCE**
  - a. Workers' Compensation coverage shall be provided in accordance with the statutory coverage required in Alabama. A group insurer must submit a certificate of authority from the Alabama Department of Industrial Relations approving the group insurance plan. A self-insurer must submit a certificate from the Alabama Department of Industrial Relations stating the Contractor qualifies to pay its own workers' compensation claims.
  - b. Employer's Liability Insurance limits shall be at least:
    - 1.) Bodily Injury by Accident - \$1,000,000 each accident
    - 2.) Bodily Injury by Disease - \$1,000,000 each employee
2. **COMMERCIAL GENERAL LIABILITY INSURANCE**
  - a. Commercial General Liability Insurance, written on an ISO Occurrence Form (current edition as of the date of Advertisement for Bids) or equivalent, shall include, but not be limited to, coverage for bodily injury and property damage arising from premises and operations liability, products and completed operations liability, blasting and explosion, collapse of structures, underground damage, personal injury liability and contractual liability. The Commercial General Liability Insurance shall provide at minimum the following limits:

<u>Coverage</u>	<u>Limit</u>
1.) General Aggregate	\$ 2,000,000.00 per Project
2.) Products, Completed Operations Aggregate	\$ 2,000,000.00 per Project
3.) Personal and Advertising Injury	\$ 1,000,000.00 per Occurrence
4.) Each Occurrence	\$ 1,000,000.00
  - b. Additional Requirements for Commercial General Liability Insurance:
    - 1.) The policy shall name the Owner, Architect, Alabama Building Commission, State Department of Education (if applicable), and their agents, consultants and employees as additional insureds, state that this coverage shall be primary insurance for the additional insureds; and contain no exclusions of the additional insureds relative to job accidents.
    - 2.) The policy must include separate per project aggregate limits.
3. **COMMERCIAL BUSINESS AUTOMOBILE LIABILITY INSURANCE**
  - a. Commercial Business Automobile Liability Insurance which shall include coverage for bodily injury and property damage arising from the operation of any owned, non-owned or hired automobile. The Commercial Business Automobile Liability Policy shall provide not less than \$1,000,000 Combined Single Limits for each occurrence.
  - b. The policy shall name the Owner, Architect, Alabama Building Commission, State Department of Education (if applicable), and their agents, consultants, and employees as additional insureds.
4. **COMMERCIAL UMBRELLA LIABILITY INSURANCE**

- a. Commercial Umbrella Liability Insurance to provide excess coverage above the Commercial General Liability, Commercial Business Automobile Liability and Workers' Compensation and Employer's Liability to satisfy the minimum limits set forth herein.
  - b. Minimum Combined Primary Commercial General Liability and Commercial/Excess Umbrella Limits of:
    - 1.) \$ 5,000,000 per Occurrence
    - 2.) \$ 5,000,000 Aggregate
  - c. Additional Requirements for Commercial Umbrella Liability Insurance:
    - 1.) The policy shall name the Owner, Architect, Alabama Building Commission, State Department of Education (if applicable), and their agents, consultants, and employees as additional insureds.
    - 2.) The policy must be on an "occurrence" basis.
5. BUILDER'S RISK INSURANCE
- a. The Builder's Risk Policy shall be made payable to the Owner and Contractor, as their interests may appear. The policy amount shall be equal to 100% of the Contract Sum, written on a Causes of Loss – Special Form (current edition as of the date of Advertisement for Bids), or its equivalent. All deductibles shall be the sole responsibility of the Contractor.
  - b. The policy shall be endorsed as follows:

"The following may occur without diminishing, changing, altering or otherwise affecting the coverage and protection afforded the insured under this policy:

    - 1.) Furniture and equipment may be delivered to the insured premises and install in place ready for use; or
    - 2.) Partial or complete occupancy by Owner; or
    - 3.) Performance of work in connection with construction operations insured by the Owner, by agents or lessees or other contractors of the Owner, or by contractors of the lessee of the Owner."

C. SUBCONTRACTORS' INSURANCE

1. WORKERS' COMPENSATION AND EMPLOYER'S LIABILITY INSURANCE. The Contractor shall require each Subcontractor to obtain and maintain Workers' Compensation and Employer's Liability Insurance coverages as described in preceding Paragraph B, or to be covered by the Contractor's Workers' Compensation and Employer's Liability Insurance while performing Work under the Contract.
2. LIABILITY INSURANCE. The Contractor shall require each Subcontractor to obtain and maintain adequate General Liability, Automobile Liability, and Umbrella Liability Insurance coverages similar to those described in preceding Paragraph B. Such coverage shall be in effect at all times that a Subcontractor is performing Work under the Contract.
3. ENFORCEMENT RESPONSIBILITY. The Contractor shall have responsibility to enforce its Subcontractors' compliance with these or similar insurance requirements; however, the Contractor shall, upon request, provide the Architect or Owner acceptable evidence of insurance for any Subcontractor.

D. TERMINATION OF OBLIGATION TO INSURE

Unless otherwise expressly provided in the Contract Documents, the obligation to insure as provided herein shall continue as follows:



1. **BUILDER'S RISK INSURANCE.** The obligation to insure under Subparagraph B(5) shall remain in effect until the Date of Substantial Completion as shall be established in the Certificate of Substantial Completion. In the event that multiple Certificates of Substantial Completion covering designated portions or the Work are issued, Builder's Risk coverage shall remain in effect until the Date of Substantial Completion. However, in the case that the Work involves separate buildings, Builder's Risk coverage of each separate building may terminate on the Date of Substantial Completion as established in the Certificate of Substantial Completion issued for each building.
2. **PRODUCTS AND COMPLETED OPERATIONS.** The obligation to carry Products and Completed Operations coverage specified under Subparagraph B(2) shall remain in effect for two years after the Date(s) of Substantial Completion.
3. **ALL OTHER INSURANCE.** The obligation to carry other insurance coverages specified under Subparagraphs B(1) through B(4) and Paragraph C shall remain in effect after the Date(s) of Substantial Completion until such time as all Work required by the Contract Documents is completed. Equal or similar insurance coverages shall remain in effect if, after completion of the Work, the Contractor, a Subcontractor, anyone directly employed by them or anyone for whose acts they may be liable, returns to the Project to perform warranty or maintenance work pursuant to the terms of the Contract Documents.

**E. 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 performing construction or operations related to the Project, 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 builder's risk insurance or other property insurance applicable to the Work or to other property located within or adjacent to the Project, except such rights as they may have to proceeds of such insurance held by the Owner or Contractor as fiduciary. The Owner or Contractor, as appropriate, shall require of the Architect, Architect's consultants, separate contractors, if any, and the subcontractor, sub-subcontractors, suppliers, 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 the 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. The waivers provided for in this paragraph shall survive final acceptance and continue to apply to insured losses to the Work or other property on or adjacent to the Project.

**END OF APPENDIX B**

## **SECTION 00800 - APPENDIX C**

### **SUPPLEMENTARY CONDITIONS OF THE CONTRACT - ARTICLE 49**

#### **49. LIQUIDATED DAMAGES:**

- A. The Substantial Completion date of this project is critical due to beginning of school. Delays in the completion of the work as provided for in the Contract Documents will cause undue expense and hardship for the Owner.
- B. Based upon a notice to proceed being issued no later than fourteen (15) calendar days after the bid date, the date established for substantial completion of the project is TBD 2018. The date of final completion for the project will be TBD, 2018. Time allowance of 40 calendar days from NTP.
- C. LIQUIDATED DAMAGES:
  - 1. A charge of \$500.00 per calendar day will be made against the General Contractor for not meeting the Dates of Substantial Completion.
  - 2. The amount of the total charges shall be deducted by the Owner from the Final estimate and shall be retained by the Owner out of moneys otherwise due the Contractor in the Final Payment, not as a penalty, but as liquidated damages sustained, it being mutually understood and agreed between the parties hereto that such amount is reasonable as liquidated damages.
- D. Liquidated damages will be processed by change order to the contract price.

**END OF APPENDIX C**

## SECTION 00800 – APPENDIX D

### SUPPLEMENTARY CONDITIONS OF THE CONTRACT – ARTICLE 44, PARAGRAPH B

#### SALES AND USE TAXES

##### GENERAL DESCRIPTION

- A. **PURPOSE:** The Owner, Alabama A&M University, is a Tax Exempt Instrumentality of the State of Alabama. As such, it is authorized to and desires to enter into an Procurement Agreement with the Contractor whereby the Owner will purchase all, or a portion of, the materials, supplies, equipment, and other items (hereinafter referred to as “materials”) necessary for the performance of this Contract by the Contractor and its subcontractors and thereby save the amount of the sales and use tax thereon.
- B. **SALES AND USE TAXES ARE INCLUDED IN THE CONTRACT AMOUNT:** The Base Bid (and all Alternate Bids) submitted on the proposal form WILL INCLUDE the cost of all required taxes, including sales and use taxes; therefore, sales and use taxes will be included in the Contract amount.
- C. **ACTUAL SAVINGS WILL BE DEDUCTED FROM THE CONTRACT AMOUNT:** Prior to Final Payment the amount of sales and use taxes actually saved and 100 percent of any cash discounts earned pursuant to this Section shall be deducted from the Contract amount by change order.

##### GENERAL PROVISIONS

- A. **PRECEDENCE:** The provisions of this Section take precedence over the printed forms, “Instructions to Bidders”, “General Conditions of the Contract”, as modified and “Supplementary General Conditions”. Unaltered provisions of these documents remain intact.
- B. **BID PROPOSALS:** The Contractor shall submit its proposal for Base Bid and proposals for each Alternate Bid, if any, with the inclusion of all required taxes including sales and use taxes, the same as if sales and use taxes were to be paid in the normal manner. The sales and use tax savings will be effected by change order prior to closeout of the Construction Contract.
- C. **NOTICE OF INTENT:** The Contractor, its subcontractors, sub-subcontractors, and all material suppliers are hereby made aware of the Owner’s intent to reduce the Contract amount through the purchase of materials in the manner hereinafter described and the Contractor shall not arbitrarily withhold his consent to the arrangement.
- D. **ADMINISTRATION:** Purchases and the resulting sales and use tax savings effected pursuant to this Section will be administered by the Contractor in accordance with the procedures set forth herein and utilizing the Purchase Order and other forms bound herein. Under the Procurement Agreement, which is also bound herein, the Contractor will be appointed as agent of the Owner to purchase, for and in the name of the Owner, those materials that are necessary for the performance of the Work by the Contractor and its subcontractors. The Owner will render payment directly to vendors and materials suppliers.
- E. **CONTRACTOR’ ADMINISTRATIVE COSTS:** Any and all costs incurred by the Contractor’s administration of purchases pursuant to the provisions of this Section shall be considered to be

included in the Contract Amount. No additional costs shall be added to the Contract amount because of the service provided by the Contractor in the purchase of materials for this project in the name of the Owner.

- F. EFFECT OF PAYMENTS:** The Owner's payments directly to vendors and suppliers pursuant to this Section shall also constitute payments against this Construction Contract. In preparing monthly requests for payment, the Contractor will determine the value of stored materials in accordance with the procedures and forms contained herein. The calculation of the amount to be retained from the contractor's monthly payments will be the percentage of retainage specified in the General Conditions of the Contract applied against the sum of the value of completed work plus the value of stored materials.
- G. SUBCONTRACTORS AND SUPPLIERS:** The Contractor shall include provisions in all subcontractors and purchase orders requiring subcontractors and suppliers and their sub-subcontractors and sub-suppliers to also effect the sales and use tax savings procedures set forth therein, fully utilizing the applicable forms bound herein.
- H. FAILURE TO ADMINISTER:** In the event that Contractor, or any of its subcontractors or suppliers at any tier, arbitrarily pays for materials that should have been purchased and/or paid for by the owner under this Section, the Owner may, at its discretion, reduce the amount to be paid. A decision by the Contractor to waive these procedures in order to expedite delivery of materials in emergency or critical situations will not be deemed a failure to administer.
- I. DISCOUNTS:** In the event there is entitlement to a discount because of timely payments for purchases made pursuant to this Section, such discount is the Owners in its entirety.
- J. RESPONSIBILITY FOR MATERIALS:** Notwithstanding this special purchase arrangement, the Contractor shall be responsible for all materials purchased hereunder, the same as would have been the case if these tax savings procedures were not implemented. Such responsibility of the Contractor shall include, but not be limited to, selecting, describing, ordering, obtaining approvals, submitting samples, coordinating, processing, preparing shop drawings, expediting deliveries, receiving and unloading, inspecting, properly storing and protecting, insuring, and guaranteeing the materials. The Contractor shall accept and sign for the materials as the Owner's agent and forward the materials invoices to the Owner for payment in accordance with the procedures for Processing of Invoices.
- K. WARRANTIES:** The purchase of materials pursuant to this Section shall not relieve the Contractor of its obligation to provide warranties specified elsewhere in these project specifications in full force and effect, the same as if these procedures were not implemented. If the purchase of an item in accordance with these procedures will invalidate the warranty offered and/or required for that item, the Contractor shall notify the Architect and Owner of the condition prior to purchasing the item so that the Owner may evaluate its option to waive these procedures for that purchase. If materials purchased pursuant to this Section fail to meet the requirements of the plans and specifications, the Contractor, as agent of the Owner or its assigns, will be responsible to enforce and pursue, at Contractor's cost and expense, including attorneys fees, all warranty actions against vendors or others responsible for the furnishing of such defective or non-complying materials to Owner.

#### PROCUREMENT AGREEMENT

To establish the agency relationship between the Contractor and Owner for the purposes of this Section, a Procurement Agreement will be executed by the two parties immediately after the Contract Bonds and Contract have been properly executed and approved. The form of Procurement Agreement to be utilized is bound in Section 00500.

## **PROCEDURES**

### **A. PURCHASE ORDERS**

All purchases of materials must be made utilizing Purchase Orders provided by the Owner.

### **B. PROCESSING OF INVOICES**

The Owner will render payments to Vendors upon receipt of invoices approved by the Contractor and transmitted to the Owner on a monthly basis as prescribed herein, and upon reimbursement by the contractor of funds received from the Alabama Public School & College Authority (PSCA) for the materials portion of the contractor's application for payment. Payments to contractor and material suppliers may require a minimum of 45 days for processing.

1. Invoices from each vendor must be tabulated on and attached to a MATERIAL INVOICE TRANSMITTAL, see Section 00500 for this form. The original and one copy of the invoice are required. The set of original invoices are to be attached to the original MATERIAL INVOICE TRANSMITTAL and each set of invoice copies is to be attached to a copy of the MATERIAL INVOICE TRANSMITTAL. By signing the certification at the bottom of the MATERIAL INVOICE TRANSMITTAL the Contractor approves the invoices for payment, certifies that the materials or equipment covered by the invoices are to be incorporated into this project, and certifies that the invoices are true, correct, and unpaid.
2. The MATERIAL INVOICE SUMMARY, see Section 00500 for this form, is to be used for summarizing and forwarding the MATERIAL INVOICE TRANSMITTALS with invoices to the Owner. The total amounts from each TRANSMITTAL and the resulting sales and use tax savings are to be tabulated on the SUMMARY. Each new SUMMARY is to be submitted to the Owner with the contractor's monthly APPLICATION AND CERTIFICATE FOR PAYMENT.

### **C. MONTHLY ACCOUNTING**

The Contractor's monthly and final APPLICATION AND CERTIFICATE FOR PAYMENT shall account for the accumulated credit due the Owner for: (1) its portion of earned Cash Discounts, (2) payments for materials, and (3) actual sales and use tax savings realized from the Owner's payments for materials.

## **END OF SECTION**

**SECTION 00800 – APPENDIX E**

**SUPPLEMENTARY CONDITIONS OF THE CONTRACT – ARTICLE 29**

**29. SCHEDULE OF VALUES:**

- A. In accordance with the General Conditions of the Contract, Article 29, Paragraph B, the Contractor shall submit for approval a Schedule of Values as shown below.

<b>No.</b>	<b><i>Divisions of Work</i></b>
1	<i>Bonds, Insurance &amp; Permits</i>
2	<i>General Conditions</i>
3	<i>Allowances</i>
4	<i>Contingencies</i>
5	<i>Demolition</i>
8	<i>Struct. Steel / Misc. Metals</i>
7	<i>Rough &amp; Finish Carpentry</i>
8	<i>Thermal &amp; Moisture</i>
9	<i>Modified Bitumen Roofing</i>
10	<i>Steel Doors and Frames</i>
11	<i>Metal Framed Storefront</i>
12	<i>Aluminum Windows</i>
13	<i>Drywall / Acoustical</i>
14	<i>Painting</i>
15	<i>Misc. Equip. / Furnishings</i>
16	<i>HVAC</i>
17	<i>Electrical</i>
18	<i>Fire Alarm</i>
19	<i>Phone / Data / Security</i>

**END OF SECTION**

## **SECTION 01019**

### **CONTRACT CONSIDERATIONS**

#### **PART 1 GENERAL**

##### **1.01 SECTION INCLUDES**

- A. Applicable Codes
- B. Pre-bid Conference
- C. Contractor Use of Premises
- D. Contract Completion Date
- E. Project Supervision
- F. Smoking and Use of Radios.

##### **1.02 APPLICABLE CODES**

- A. The editions at the time of bidding, including all amendments of the following codes shall apply to this Work:
  - 1. National Electric Code
  - 2. National Fire Protection Code
  - 3. International Fire Protection Code
  - 4. International Gas Code
  - 5. International Housing Code
  - 6. International Mechanical Code
  - 7. International Plumbing Code
  - 8. International Building Code, Editions 2015
  - 9. American with Disabilities Act
  - 10. All local governing codes and ordinances

##### **1.03 PRE-BID CONFERENCE**

- A. A mandatory pre-bid conference shall be held at University Services Building located 453 Buchanan Way, Normal AL on TBD at 10 A.M. CDT. All General Contractors and major Subcontractors bidding the project are requested to attend.

##### **1.04 CONTRACTOR USE OF PREMISES**

- A. Confine operations at site to area permitted by Owner.
- B. Do not unreasonable encumber site with materials or equipment.
- C. Assume full responsibility for protecting and safe-keeping of products stored on premises.

##### **1.05 AID TO CONSTRUCTION**

- A. Obtain from Utility Company any additional charges for service of type, size and location called for. Include charges in bid to be paid by Contractor to appropriate party. Provide payment of these charges so as to allow logical progression of construction and avoid delay of completion.

##### **1.06 CONTRACT COMPLETION DATE**

- A. Refer to Section 01100 Summary for the Contract Completion Date.

##### **1.07 PROJECT SUPERVISION**

- A. The Contractor shall employ a competent supervisor and necessary assistants who shall be in

attendance at the project site at all times during performance of the work. The project supervisor shall not be moved to another project or otherwise fail to be in attendance at the project site until the project is substantially complete or until the Architect and Owner approve of the supervisor's absence from the project site.

**1.08 SMOKING AND USE OF RADIOS**

- A. Alabama A&M University does not allow smoking, tobacco, or drugs on the job site.
- B. General Contractor and Subcontractors personnel shall not have a radio on job-site, shall wear shirts at all times on-site, shall not use foul language in the presence of students or school personnel. Persons violating any of these conditions shall be removed from the job site immediately by the Project Supervisor, warned by their respective employer, and if found violating any condition afterward shall be removed from the project site permanently without any return for any reason.

**PART 2 PRODUCTS - NOT USED**

**PART 3 EXECUTION - NOT USED**

**END OF SECTION**



## **SECTION 01100**

### **SUMMARY**

#### **PART 1 GENERAL**

##### **1.01 PROJECT**

- A. Project Name: Boiler Replacement at School of Engineering For Alabama A&M University
- B. Owner's Name: Alabama Public School and College Authority and Alabama A&M University
- C. Engineer's Name: Mims Engineering, Inc.
- D. The Project consists of the construction of a boiler replacement for Carver Complex

##### **1.02 CONTRACT DESCRIPTION**

- A. Contract Type: A single prime contract based on a Stipulated Price as described in Document 00500 - Agreement.

##### **1.03 OWNER OCCUPANCY**

- A. The Alabama A&M University intends to occupy the Project by the date stated in the Agreement as the date of substantial completion.

##### **1.04 CONTRACTOR USE OF SITE AND PREMISES**

- A. Arrange use of site and premises to allow:
  - 1. Alabama A&M University occupancy.
  - 2. Work by Others.
  - 3. Work by Alabama A&M University
  - 4. Work by owner's contractor constructing a physical education activity building on campus.
- B. Provide access to and from site as required by law and by Alabama A&M University:

##### **1.05 WORK SEQUENCE**

- A. Coordinate construction schedule and operations with Alabama A&M University.

##### **1.06 TIME**

- A. It is anticipated that the successful bidder will be issued a notice to proceed within fourteen (15) days of the bid date. Refer to Supplementary Conditions Section 00800 for contract requirements relating to substantial completion, liquidated damages and time extensions.

#### **PART 2 PRODUCTS - NOT USED**

#### **PART 3 EXECUTION - NOT USED**

### **END OF SECTION**

## **SECTION 01200**

### **PRICE AND PAYMENT PROCEDURES**

#### **PART 1 GENERAL**

##### **1.01 SECTION INCLUDES**

- A. Procedures for preparation and submittal of applications for progress payments.
- B. Documentation of changes in Contract Sum and Contract Time.
- C. Change procedures.
- D. Correlation of Contractor submittals based on changes.
- E. Procedures for preparation and submittal of application for final payment.

##### **1.02 RELATED SECTIONS**

- A. Section 00500 - Construction Documents and Forms: Agreement: Contract Sum, retainages, payment period, monetary values of unit prices.
- B. Section 00500 - Construction Documents and Forms: General Conditions of the Contract and Document 00800 - Supplementary Conditions: Additional requirements for progress payments, final payment, changes in the Work.
- C. Document 00800 - Supplementary Conditions: Percentage allowances for Contractor's overhead and profit.
- D. Section 01210 - Allowances: Payment procedures relating to allowances.
- E. Section 01270 - Unit Prices: Monetary values of unit prices, payment and modification procedures relating to unit prices.

##### **1.03 SCHEDULE OF VALUES**

- A. Electronic media printout including equivalent information will be considered in lieu of standard form specified; submit sample to Mims Engineering for approval.
- B. Forms filled out by hand will not be accepted.
- C. Submit a printed schedule on ABC Form C-10, August 2001, Application and Certificate for Payment Continuation Sheet. Contractor's standard form or electronic media printout will be considered.
- D. Submit Schedule of Values in duplicate within 15 days after date of Owner-Contractor Agreement.
- E. Format: Utilize the Table of Contents of this Project Manual. Identify each line item with number and title of the specification Section. Identify site mobilization and bonds and insurance.
- F. Include in each line item, the amount of Allowances specified in this section.
- G. Include within each line item, a direct proportional amount of Contractor's overhead and profit.
- H. Revise schedule to list approved Change Orders, with each Application For Payment.

##### **1.04 APPLICATIONS FOR PROGRESS PAYMENTS**

- A. Payment Period: 26th day through the 25th day of the next month.
- B. Electronic media printout including equivalent information will be considered in lieu of standard form specified; submit sample to Mims Engineering for approval.

- C. Forms filled out by hand will not be accepted.
- D. Present required information in typewritten form.
- E. Form: ABC Form C-10, August 2001, Application and Certification for Payment. Utilize Schedule of Values for listing items in Application and Certificate for Payment.
- F. For each item, provide a column for listing each of the following:
  - 1. Item Number.
  - 2. Description of work.
  - 3. Scheduled Values.
  - 4. Previous Applications.
  - 5. Work in Place and Stored Materials under this Application.
  - 6. Authorized Change Orders.
  - 7. Total Completed and Stored to Date of Application.
  - 8. Percentage of Completion.
  - 9. Balance to Finish.
  - 10. Retainage.
- G. Execute certification by signature of authorized officer.
- H. Use data from approved Schedule of Values. Provide dollar value in each column for each line item for portion of work performed and for stored Products.
- I. List each authorized Change Order as a separate line item, listing Change Order number and dollar amount as for an original item of Work.
- J. Submit six copies of each Application for Payment.
- K. Include the following with the application:
  - 1. Transmittal letter as specified for Submittals in Section 01300.
  - 2. Construction progress schedule, revised and current as specified in Section 01300.
  - 3. Affidavits attesting to off-site stored products.
- L. When Mims Engineering requires substantiating information, submit data justifying dollar amounts in question.

#### **1.05 MODIFICATION PROCEDURES**

- A. Submit name of the individual authorized to receive change documents and who will be responsible for informing others in Contractor's employ or subcontractors of changes to the Contract Documents.
- B. For minor changes not involving an adjustment to the Contract Price or Contract Time, Mims Engineering will issue instructions directly to Contractor.
- C. The Architect/Engineer will advise of minor changes in the Work not involving an adjustment to Contract Sum or Contract Time as authorized by the Conditions of the Contract.
- D. For other required changes, Mims Engineering will issue a document signed by Alabama A&M University instructing Contractor to proceed with the change, for subsequent inclusion in a Change Order.
  - 1. The document will describe the required changes and will designate method of determining any change in Contract Sum or Contract Time.
  - 2. Promptly execute the change.
- E. For changes for which advance pricing is desired, Mims Engineering will issue a document that includes a detailed description of a proposed change with supplementary or revised drawings and specifications, a change in Contract Time for executing the change. Contractor shall prepare and submit a fixed price quotation within 10 days.

- F. Contractor may propose a change by submitting a request for change to Mims Engineering, describing the proposed change and its full effect on the Work, with a statement describing the reason for the change, and the effect on the Contract Sum and Contract Time with full documentation. Document any requested substitutions in accordance with Section 01600.
- G. Computation of Change in Contract Amount: As specified in the Agreement and Conditions of the Contract.
  - 1. For change requested by Mims Engineering for work falling under a fixed price contract, the amount will be based on Contractor's price quotation.
  - 2. For change requested by Contractor, the amount will be based on the Contractor's request for a Change Order as approved by Mims Engineering.
  - 3. For pre-determined unit prices and quantities, the amount will be based on the fixed unit prices.
- H. Substantiation of Costs: Provide full information required for evaluation.
  - 1. On request, provide following data:
    - a. Quantities of products, labor, and equipment.
    - b. Taxes, insurance, and bonds.
    - c. Overhead and profit.
    - d. Justification for any change in Contract Time.
    - e. Credit for deletions from Contract, similarly documented.
  - 2. Support each claim for additional costs with additional information:
    - a. Origin and date of claim.
    - b. Dates and times work was performed, and by whom.
    - c. Time records and wage rates paid.
    - d. Invoices and receipts for products, equipment, and subcontracts, similarly documented.
  - 3. For Time and Material work, submit itemized account and supporting data after completion of change, within time limits indicated in the Conditions of the Contract.
- I. Execution of Change Orders: Mims Engineering will issue Change Orders for signatures of parties as provided in the Conditions of the Contract.
- J. After execution of Change Order, promptly revise Schedule of Values and Application for Payment forms to record each authorized Change Order as a separate line item and adjust the Contract Sum.
- K. Promptly revise progress schedules to reflect any change in Contract Time, revise sub-schedules to adjust times for other items of work affected by the change, and resubmit.
- L. Promptly enter changes in Project Record Documents.

#### **1.06 APPLICATION FOR FINAL PAYMENT**

- A. Prepare Application for Final Payment as specified for progress payments, identifying total adjusted Contract Sum, previous payments, and sum remaining due.
- B. Application for Final Payment will not be considered until the following have been accomplished:
  - 1. All closeout procedures specified in Section 01700.

#### **PART 2 PRODUCTS - NOT USED**

#### **PART 3 EXECUTION - NOT USED**

#### **END OF SECTION**

**SECTION 01210**

**ALLOWANCES**

**PART 1 GENERAL**

**1.01 SECTION INCLUDES**

- A. Owner allowance
- B. Payment and modification procedures relating to allowances

**1.02 RELATED SECTIONS**

- A. Section 01200 - Price and Payment Procedures: Additional payment and modification procedures.

**1.03 OWNER ALLOWANCE**

- A. Include the sum of \$ 7,000.00 for Owner Allowance. Owner Allowance shall be used solely for additional work at the discretion of the Owner's project representative.
- B. General Contractor's profit and overhead is presumed to be included in the base bid & will not be added to charges covered by the Owner Allowance.
- C. All changes covered by Owner Allowance will be approved by the Owner in writing.
- D. Funds will be drawn from the Owner Allowance by Change Order prior to Project Closeout.
- E. At Closeout of contract funds remaining in Owner Allowance will be fully credited to Owner by Change Order.

**PART 2 PRODUCTS - NOT USED**

**PART 3 EXECUTION - NOT USED**

**END OF SECTION**

## **SECTION 01300**

### **ADMINISTRATIVE REQUIREMENTS**

#### **PART 1 GENERAL**

##### **1.01 SECTION INCLUDES**

- A. Preconstruction meeting.
- B. Site mobilization meeting.
- C. Progress meetings.
- D. Construction progress schedule.
- E. Coordination drawings.
- F. Submittals for review, information, and project closeout.
- G. Number of copies of submittals.
- H. Submittal procedures.

##### **1.02 PROJECT COORDINATION**

- A. Coordinate scheduling, submittals, and Work of the various sections of the Project Manual to assure efficient and orderly sequence of installation of interdependent construction elements, with provisions for accommodating items installed later.
- B. Verify utility requirements and characteristics of operating equipment are compatible with building utilities. Coordinate work of various sections having interdependent responsibilities for installing, connecting to, and placing in service such equipment.
- C. Coordinate space requirements and installation of mechanical and electrical work which are indicated diagrammatically on Drawings. Follow routing shown for pipes, ducts, and conduit, as closely as practicable; place runs parallel with line of building. Utilize spaces efficiently to maximize accessibility for other installations, for maintenance, and for repairs.
- D. In finished areas except as otherwise indicated, conceal pipes, ducts, and wiring within the construction. Coordinate locations of fixtures and outlets with finish elements.
- E. Coordinate completion and clean up of Work of separate sections in preparation for Substantial Completion and for portions of Work designated for Owner's partial occupancy.
- F. After Owner occupancy of premises, coordinate access to site for correction of defective Work and Work not in accordance with Contract Documents, to minimize disruption of Owner's activities.

#### **PART 2 PRODUCTS - NOT USED**

#### **PART 3 EXECUTION**

##### **3.01 PRECONSTRUCTION MEETING**

- A. Mims Engineering will schedule a meeting after Notice of Award.
- B. Attendance Required:
  - 1. Alabama A&M University Representative(s).
  - 2. Mims Engineering.
  - 3. Contractor.
  - 4. Major Subcontractors and Suppliers.

- C. Agenda:
  - 1. Execution of Alabama A&M University -Contractor Agreement.
  - 2. Submission of executed bonds and insurance certificates.
  - 3. Distribution of Contract Documents.
  - 4. Designation of personnel representing the parties to Contract, major subcontractors, and Mims Engineering.
  - 5. Procedures and processing of field decisions, submittals, substitutions, applications for payments, proposal request, Change Orders, and Contract closeout procedures.
  - 6. Scheduling.
- D. Record minutes and distribute copies within two days after meeting to participants, with one copy to Mims Engineering, Alabama A&M University, participants, and those affected by decisions made.

### **3.02 SITE MOBILIZATION MEETING**

- A. Topics covered under this section will be addressed at the above mentioned Preconstruction Meeting.
- B. Mims Engineering will schedule a meeting at the Project site prior to Contractor occupancy.
- C. Attendance Required:
  - 1. Contractor.
  - 2. Alabama A&M University.
  - 3. Mims Engineering.
  - 4. Special Consultants.
  - 5. Contractor's Superintendent.
  - 6. Major Subcontractors.
- D. Agenda:
  - 1. Use of premises by Alabama A&M University and Contractor.
  - 2. Alabama A&M University's requirements and occupancy prior to completion.
  - 3. Temporary utilities provided by Alabama A&M University.
  - 4. Security and housekeeping procedures.
  - 5. Schedules.
  - 6. Application for payment procedures.
  - 7. Procedures for testing.
  - 8. Procedures for maintaining record documents.
  - 9. Requirements for start-up of equipment.
  - 10. Inspection and acceptance of equipment put into service during construction period.
- E. Record minutes and distribute copies within two days after meeting to participants, with one copy to Mims Engineering, Alabama A&M University, participants, and those affected by decisions made.

### **3.03 PROGRESS MEETINGS**

- A. Schedule and administer meetings throughout progress of the Work at maximum two week intervals during initial phase of construction and at one week intervals upon commencement of application of finish materials.
- B. Make arrangements for meetings, prepare agenda with copies for participants, and preside at meetings.

- C. Attendance Required: Job superintendent, major Subcontractors and suppliers, Alabama A&M University, Mims Engineering, as appropriate to agenda topics for each meeting.
- D. Agenda:
  - 1. Review minutes of previous meetings.
  - 2. Review of Work progress.
  - 3. Field observations, problems, and decisions.
  - 4. Identification of problems that impede, or will impede, planned progress.
  - 5. Review of submittals schedule and status of submittals.
  - 6. Review of off-site fabrication and delivery schedules.
  - 7. Maintenance of progress schedule.
  - 8. Corrective measures to regain projected schedules.
  - 9. Planned progress during succeeding work period.
  - 10. Coordination of projected progress.
  - 11. Maintenance of quality and work standards.
  - 12. Effect of proposed changes on progress schedule and coordination.
  - 13. Other business relating to Work.
- E. Record minutes and distribute copies within two days after meeting to participants, with one copy to Mims Engineering, Alabama A&M University, participants, and those affected by decisions made.

#### **3.04 CONSTRUCTION PROGRESS SCHEDULE - SEE SECTION 01325**

- A. Within 10 days after date of the Agreement, submit preliminary schedule defining planned operations for the first 60 days of Work, with a general outline for remainder of Work.
- B. If preliminary schedule requires revision after review, submit revised schedule within 10 days.
- C. Within 20 days after review of preliminary schedule, submit draft of proposed complete schedule for review.
  - 1. Include written certification that mechanical and electrical contractors have reviewed and accepted proposed schedule.
- D. Within 10 days after joint review, submit complete schedule.
- E. Submit updated schedule every 30 days.

#### **3.05 SUBMITTALS FOR REVIEW**

- A. When the following are specified in individual sections, submit them for review:
  - 1. Product data.
  - 2. Shop drawings.
  - 3. Samples for selection.
  - 4. Samples for verification.
- B. Submit to Mims Engineering for review for the limited purpose of checking for conformance with information given and the design concept expressed in the contract documents.
- C. Samples will be reviewed only for aesthetic, color, or finish selection.
- D. After review, provide copies and distribute in accordance with SUBMITTAL PROCEDURES article below and for record documents purposes described in Section 01780 - CLOSEOUT SUBMITTALS.

#### **3.06 SUBMITTALS FOR INFORMATION**

- A. When the following are specified in individual sections, submit them for information:
  - 1. Design data.



2. Certificates.
  3. Test reports.
  4. Inspection reports.
  5. Manufacturer's instructions.
  6. Manufacturer's field reports.
  7. Other types indicated.
- B. Submit for Mims Engineering's knowledge as contract administrator or for Alabama A&M University.

### **3.07 SUBMITTALS FOR PROJECT CLOSEOUT**

- A. When the following are specified in individual sections, submit them at project closeout:
1. Project record documents.
  2. Operation and maintenance data.
  3. Warranties.
  4. Bonds.
  5. Other types as indicated.
- B. Submit for Alabama A&M University's benefit during and after project completion.

### **3.08 NUMBER OF COPIES OF SUBMITTALS**

- A. Documents for Review:
1. Small Size Sheets, Not Larger than 8-1/2 x 11 inches: Submit the number of copies that Contractor requires, plus three copies that will be retained by Mims Engineering.
  2. Larger Sheets, Not Larger than 30 x 42 inches: Submit the number of opaque reproductions that Contractor requires, plus two copies that will be retained by Mims Engineering.
- B. Documents for Information: Submit two copies.
- C. Documents for Project Closeout: Make one reproduction of submittal originally reviewed. Submit one extra of submittals for information.
- D. Samples: Submit the number specified in individual specification sections; one of which will be retained by Mims Engineering.
1. After review, produce duplicates.
  2. Retained samples will not be returned to Contractor unless specifically so stated.

### **3.09 SUBMITTAL PROCEDURES**

- A. Transmit each submittal with approved form.
- B. Sequentially number the transmittal form. Revise submittals with original number and a sequential alphabetic suffix.
- C. Identify Project, Contractor, Subcontractor or supplier; pertinent drawing and detail number, and specification section number, as appropriate on each copy.
- D. Apply Contractor's stamp, signed or initialed certifying that review, approval, verification of Products required, field dimensions, adjacent construction Work, and coordination of information is in accordance with the requirements of the Work and Contract Documents.
- E. Deliver submittals to Mims Engineering at 112B South Side Square., Huntsville, AL 35801.
- F. Schedule submittals to expedite the Project, and coordinate submission of related items.
- G. For each submittal for review, allow 15 days excluding delivery time to and from the Contractor.
- H. Identify variations from Contract Documents and Product or system limitations that may be

detrimental to successful performance of the completed Work.

- I. Provide space for Contractor and Mims Engineering review stamps.
- J. When revised for resubmission, identify all changes made since previous submission.
- K. Distribute copies of reviewed submittals as appropriate. Instruct parties to promptly report any inability to comply with requirements.
- L. Submittals not requested will not be recognized or processed.
- M. Shop Drawings and/or submittals requiring resubmission to the Engineer due to non-compliance with the Contract Documents and /or incompleteness shall be thoroughly reviewed by the Contractor prior to delivery to the Engineer for review. The Contractor shall ensure the completeness and compliance of the submittal materials. Cost incurred by the Owner for review of submittals after the second submittal is rejected will be the responsibility of the Contractor at the rate of \$150.00 per hour, including travel time.

**END OF SECTION**

## **SECTION 01325**

### **CONSTRUCTION PROGRESS SCHEDULE**

#### **PART 1 GENERAL**

##### **1.01 SECTION INCLUDES**

- A. Preliminary schedule.
- B. Construction progress schedule, bar chart type.

##### **1.02 RELATED SECTIONS**

- A. Section 01100 - Summary: Work sequence.

##### **1.03 REFERENCES**

- A. AGC (CPSM) - Construction Planning and Scheduling Manual; Associated General Contractors of America.
- B. M-H (CPM) - CPM in Construction Management - Project Management with CPM, O'Brien, McGraw-Hill Book Company.

##### **1.04 SUBMITTALS**

- A. Within 10 days after date of Agreement, submit preliminary schedule defining planned operations for the first 30 days of Work, with a general outline for remainder of Work.
- B. If preliminary schedule requires revision after review, submit revised schedule within 10 days.
- C. Within 20 days after review of preliminary schedule, submit draft of proposed complete schedule for review.
  - 1. Include written certification that major contractors have reviewed and accepted proposed schedule.
  - 2. Notify Architect of any material or trade that may be a potential delay.
- D. Within 10 days after joint review, submit complete schedule.
- E. Submit updated schedule with each Application for Payment.
- F. Submit under transmittal letter form specified in Section 01300.

##### **1.05 QUALITY ASSURANCE**

- A. Scheduler: Contractor's personnel or specialist Consultant specializing in CPM scheduling with one years minimum experience in scheduling construction work of a complexity comparable to this Project, and having use of computer facilities capable of delivering a detailed graphic printout within 48 hours of request.
- B. Contractor's Administrative Personnel: five years minimum experience in using and monitoring CPM schedules on comparable projects.

##### **1.06 SCHEDULE FORMAT**

- A. Listings: In chronological order according to the start date for each activity. Identify each activity with the applicable specification section number.
- B. Diagram Sheet Size: Maximum 24 x 36 inches or width required.
- C. Sheet Size: Multiples of 8-1/2 x 11 inches.
- D. Scale and Spacing: To allow for notations and revisions.

#### **PART 2 PRODUCTS - NOT USED**

#### **PART 3 EXECUTION**

### **3.01 PRELIMINARY SCHEDULE**

- A. Prepare preliminary schedule in the form of a horizontal bar chart.

### **3.02 CONTENT**

- A. Show complete sequence of construction by activity, with dates for beginning and completion of each element of construction.
- B. Identify each item by specification section number.
- C. Identify work of separate stages and other logically grouped activities.
- D. Provide sub-schedules for each stage of Work identified in Section 01100.
- E. Provide sub-schedules to define critical portions of the entire schedule.
- F. Include conferences and meetings in schedule.
- G. Show accumulated percentage of completion of each item, and total percentage of Work completed, as of the first day of each month.
- H. Coordinate content with schedule of values specified in Section 01200.
- I. Provide legend for symbols and abbreviations used.

### **3.03 BAR CHARTS**

- A. Include a separate bar for each major portion of Work or operation.
- B. Identify the first work day of each week.

### **3.04 REVIEW AND EVALUATION OF SCHEDULE**

- A. Participate in joint review and evaluation of schedule with Mims Engineering at each submittal.
- B. Evaluate project status to determine work behind schedule and work ahead of schedule.
- C. After review, revise as necessary as result of review, and resubmit within 10 days.

### **3.05 UPDATING SCHEDULE**

- A. Maintain schedules to record actual start and finish dates of completed activities.
- B. Indicate progress of each activity to date of revision, with projected completion date of each activity.
- C. Update diagrams to graphically depict current status of Work.
- D. Identify activities modified since previous submittal, major changes in Work, and other identifiable changes.
- E. Indicate changes required to maintain Date of Final Completion.
- F. Submit reports required to support recommended changes.
- G. Provide narrative report to define problem areas, anticipated delays, and impact on the schedule. Report corrective action taken or proposed and its effect.

### **3.06 DISTRIBUTION OF SCHEDULE**

- A. Distribute copies of updated schedules to Contractor's project site file, to Subcontractors, suppliers, Mims Engineering, Alabama A&M University.
- B. Instruct recipients to promptly report, in writing, problems anticipated by projections shown in schedules.

## **END OF SECTION**

## **SECTION 01400**

### **QUALITY REQUIREMENTS**

#### **PART 1 GENERAL**

##### **1.01 SECTION INCLUDES**

- A. References and standards.
- B. Quality assurance submittals.
- C. Mock-ups.
- D. Control of installation.
- E. Tolerances.
- F. Testing and inspection services.
- G. Manufacturers' field services.

##### **1.02 RELATED SECTIONS**

- A. Document 00700 - General Conditions: Inspections and approvals required by public authorities.
- B. Section 01300 - Administrative Requirements: Submittal procedures.
- C. Section 01600 - Product Requirements: Requirements for material and product quality.

##### **1.03 SUBMITTALS**

- A. Certificates: When specified in individual specification sections, submit certification by the manufacturer and Contractor to Mims Engineering, in quantities specified for Product Data.
  - 1. Indicate material or product conforms to or exceeds specified requirements. Submit supporting reference data, affidavits, and certifications as appropriate.
  - 2. Certificates may be recent or previous test results on material or product, but must be acceptable to Mims Engineering.
- B. Manufacturer's Instructions: When specified in individual specification sections, submit printed instructions for delivery, storage, assembly, installation, start-up, adjusting, and finishing, for the Alabama A&M University's information. Indicate special procedures, perimeter conditions requiring special attention, and special environmental criteria required for application or installation.
- C. Manufacturer's Field Reports: Submit reports for Mims Engineering's benefit as contract administrator or for Alabama A&M University.
  - 1. Submit report within 30 days of observation to Mims Engineering for information.
  - 2. Submit for information for the limited purpose of assessing conformance with information given and the design concept expressed in the contract documents.
- D. Erection Drawings: Submit drawings for Mims Engineering's benefit as contract administrator or for Alabama A&M University.
  - 1. Submit for information for the limited purpose of assessing conformance with information given and the design concept expressed in the contract documents.
  - 2. Data indicating inappropriate or unacceptable Work may be subject to action by Mims Engineering or Alabama A&M University.

##### **1.04 REFERENCES AND STANDARDS**

- A. For products and workmanship specified by reference to a document or documents not included

in the Project Manual, also referred to as reference standards, comply with requirements of the standard, except when more rigid requirements are specified or are required by applicable codes.

- B. Conform to reference standard of date of issue current on date of Contract Documents, except where a specific date is established by applicable code.
- C. Obtain copies of standards where required by product specification sections.
- D. Maintain copy at project site during submittals, planning, and progress of the specific work, until Substantial Completion.
- E. Should specified reference standards conflict with Contract Documents, request clarification from Mims Engineering before proceeding.
- F. Neither the contractual relationships, duties, or responsibilities of the parties in Contract nor those of Mims Engineering shall be altered from the Contract Documents by mention or inference otherwise in any reference document.

### **1.05 TESTING AND INSPECTION AGENCIES**

- A. Alabama A&M University will employ and pay for services of an independent testing agency to perform soil and concrete testing all other testing is by Contractor.
- B. Employment of agency in no way relieves Contractor of obligation to perform Work in accordance with requirements of Contract Documents.

## **PART 2 PRODUCTS - NOT USED**

## **PART 3 EXECUTION**

### **3.01 CONTROL OF INSTALLATION**

- A. Monitor quality control over suppliers, manufacturers, products, services, site conditions, and workmanship, to produce Work of specified quality.
- B. Comply with manufacturers' instructions, including each step in sequence.
- C. Should manufacturers' instructions conflict with Contract Documents, request clarification from Mims Engineering before proceeding.
- D. Comply with specified standards as minimum quality for the Work except where more stringent tolerances, codes, or specified requirements indicate higher standards or more precise workmanship.
- E. Have Work performed by persons qualified to produce required and specified quality.
- F. Verify that field measurements are as indicated on shop drawings or as instructed by the manufacturer.
- G. Secure products in place with positive anchorage devices designed and sized to withstand stresses, vibration, physical distortion, and disfigurement.

### **3.02 MOCK-UPS**

- A. Tests will be performed under provisions identified in this section and identified in the respective product specification sections.
- B. Assemble and erect specified items with specified attachment and anchorage devices, flashings, seals, and finishes.
- C. Accepted mock-ups shall be a comparison standard for the remaining Work.

- D. Where mock-up has been accepted by Mims Engineering and is specified in product specification sections to be removed, remove mock-up and clear area when directed to do so.

### 3.03 TOLERANCES

- A. Monitor fabrication and installation tolerance control of products to produce acceptable Work. Do not permit tolerances to accumulate.
- B. Comply with manufacturers' tolerances. Should manufacturers' tolerances conflict with Contract Documents, request clarification from Mims Engineering before proceeding.
- C. Adjust products to appropriate dimensions; position before securing products in place.

### 3.04 TESTING AND INSPECTION

- A. See individual specification sections for testing required.
- B. Testing Agency Duties:
  - 1. Test samples of mixes submitted by Contractor.
  - 2. Provide qualified personnel at site. Cooperate with Mims Engineering and Contractor in performance of services.
  - 3. Perform specified sampling and testing of products in accordance with specified standards.
  - 4. Ascertain compliance of materials and mixes with requirements of Contract Documents.
  - 5. Promptly notify Mims Engineering and Contractor of observed irregularities or non-conformance of Work or products.
  - 6. Perform additional tests and inspections required by Mims Engineering.
  - 7. Attend preconstruction meetings and progress meetings.
  - 8. Submit reports of all tests/inspections specified.
- C. Limits on Testing/Inspection Agency Authority:
  - 1. Agency may not release, revoke, alter, or enlarge on requirements of Contract Documents.
  - 2. Agency may not approve or accept any portion of the Work.
  - 3. Agency may not assume any duties of Contractor.
  - 4. Agency has no authority to stop the Work.
- D. Contractor Responsibilities:
  - 1. Deliver to agency at designated location, adequate samples of materials proposed to be used that require testing, along with proposed mix designs.
  - 2. Cooperate with laboratory personnel, and provide access to the Work and to manufacturers' facilities.
  - 3. Provide incidental labor and facilities:
    - a. To provide access to Work to be tested/inspected.
    - b. To obtain and handle samples at the site or at source of Products to be tested/inspected.
    - c. To facilitate tests/inspections.
    - d. To provide storage and curing of test samples.
  - 4. Notify Mims Engineering and laboratory 24 hours prior to expected time for operations requiring testing/inspection services.
  - 5. Employ services of an independent qualified testing laboratory and pay for additional samples, tests, and inspections required by Contractor beyond specified requirements.
  - 6. Arrange with Alabama A&M University's agency and pay for additional samples, tests, and inspections required by Contractor beyond specified requirements.
- E. Re-testing required because of non-conformance to specified requirements shall be performed by the same agency on instructions by Mims Engineering.
- F. Re-testing required because of non-conformance to specified requirements shall be paid for by Contractor.

- G. Re-testing required because of non-conformance to specified requirements shall be performed by the same agency on instructions by Mims Engineering. Payment for re testing will be charged to the Contractor by deducting testing charges from the Contract Price.

### **3.05 MANUFACTURERS' FIELD SERVICES**

- A. When specified in individual specification sections, require material or product suppliers or manufacturers to provide qualified staff personnel to observe site conditions, conditions of surfaces and installation, quality of workmanship, as applicable, and to initiate instructions when necessary.
- B. Submit qualifications of observer to Mims Engineering 30 days in advance of required observations.
  - 1. Observer subject to approval of Mims Engineering.
  - 2. Observer subject to approval of Alabama A&M University.
- C. Report observations and site decisions or instructions given to applicators or installers that are supplemental or contrary to manufacturers' written instructions.

### **3.06 DEFECT ASSESSMENT**

- A. Replace Work or portions of the Work not conforming to specified requirements.
- B. If, in the opinion of Mims Engineering, it is not practical to remove and replace the Work, Mims Engineering will direct an appropriate remedy or adjust payment.

**END OF SECTION**



## **SECTION 01500**

### **TEMPORARY FACILITIES AND CONTROLS**

#### **PART 1 GENERAL**

##### **1.01 SECTION INCLUDES**

- A. Temporary utilities.
- B. Temporary telecommunications services.
- C. Temporary telephone service.
- D. Temporary sanitary facilities.
- E. Temporary Controls: Barriers, enclosures, and fencing.
- F. Security requirements.
- G. Vehicular access and parking.
- H. Waste removal facilities and services.
- I. Project identification sign.
- J. Field offices.

##### **1.02 RELATED SECTIONS**

- A. Section 01510 - Temporary Utilities.

##### **1.03 TELECOMMUNICATIONS SERVICES**

- A. Provide, maintain, and pay for telecommunications services to field office at time of project mobilization.
- B. Provide, maintain and pay for facsimile service to field office at time of project mobilization.

##### **1.04 TEMPORARY SANITARY FACILITIES**

- A. Provide and maintain required facilities and enclosures. Provide at time of project mobilization.
- B. Use of existing facilities located at project site is not permitted.
- C. Maintain daily in clean and sanitary condition.
- D. At end of construction, return facilities to same or better condition as originally found.

##### **1.05 BARRIERS**

- A. Provide barriers to prevent unauthorized entry to construction areas and to protect existing facilities and adjacent properties from damage from construction operations.
- B. Provide protection for plants designated to remain. Replace damaged plants.
- C. Protect non-owned vehicular traffic, stored materials, site, and structures from damage.

##### **1.06 FENCING**

- A. Construction Material: Contractor's option.

##### **1.07 SECURITY**

- A. Provide security and facilities to protect Work, and Alabama A&M University's operations from unauthorized entry, vandalism, or theft.

- B. Coordinate with Alabama A&M University's security program.

#### **1.08 VEHICULAR ACCESS AND PARKING**

- A. Coordinate access and haul routes with governing authorities and Alabama A&M University.
- B. Provide and maintain access to fire hydrants, free of obstructions.
- C. Provide means of removing mud from vehicle wheels before entering streets.
- D. Existing on-site roads may be used for construction traffic.
- E. Provide temporary parking areas to accommodate construction personnel. When site space is not adequate, provide additional off-site parking.

#### **1.09 WASTE REMOVAL**

- A. Provide waste removal facilities and services as required to maintain the site in clean and orderly condition.
- B. Provide containers with lids. Remove trash from site periodically.
- C. If materials to be recycled or re-used on the project must be stored on-site, provide suitable non-combustible containers; locate containers holding flammable material outside the structure unless otherwise approved by the authorities having jurisdiction.
- D. Open free-fall chutes are not permitted. Terminate closed chutes into appropriate containers with lids.

#### **1.10 PROJECT IDENTIFICATION**

- A. Provide project identification sign of design and construction as required by State of Alabama Building Commission.
- B. Erect on site at location established by Mims Engineering.

#### **1.11 FIELD OFFICES**

- A. Office: Weather tight, with lighting, electrical outlets, heating, cooling equipment, and equipped with sturdy furniture. Contractor may designate area of existing structure as a field office.
- B. Provide space for Project meetings, with table and chairs to accommodate 6 persons.

#### **1.12 REMOVAL OF UTILITIES, FACILITIES, AND CONTROLS**

- A. Remove temporary utilities, equipment, facilities, materials, prior to Final Application for Payment inspection.
- B. Clean and repair damage caused by installation or use of temporary work.
- C. Restore existing facilities used during construction to original condition.

#### **PART 2 PRODUCTS - NOT USED**

#### **PART 3 EXECUTION - NOT USED**

#### **END OF SECTION**

## **SECTION 01510**

### **TEMPORARY UTILITIES**

#### **PART 1 GENERAL**

##### **1.01 SECTION INCLUDES**

- A. Temporary Utilities: Electricity, lighting, heat, ventilation, and water.

##### **1.02 RELATED SECTIONS**

- A. Section 01500 - Temporary Facilities and Controls: Telephone service for administrative purposes.

##### **1.03 TEMPORARY ELECTRICITY**

- A. Cost: By Contractor.
- B. Provide power service required from utility source.
- C. Provide power outlets for construction operations, with branch wiring and distribution boxes located at each floor. Provide flexible power cords as required.
- D. Provide main service disconnect and over-current protection at convenient location and meter.
- E. Permanent convenience receptacles may be utilized during construction.
- F. Provide adequate distribution equipment, wiring, and outlets to provide single phase branch circuits for power and lighting.

##### **1.04 TEMPORARY LIGHTING FOR CONSTRUCTION PURPOSES**

- A. Provide and maintain lighting for construction operations to achieve a minimum lighting level of 2 watt/sq ft .
- B. Provide and maintain 1 watt/sq ft lighting to exterior staging and storage areas after dark for security purposes.
- C. Provide and maintain 0.25 watt/sq ft H.I.D. lighting to interior work areas after dark for security purposes.
- D. Provide branch wiring from power source to distribution boxes with lighting conductors, pigtails, and lamps as required.
- E. Maintain lighting and provide routine repairs.
- F. Permanent building lighting may be utilized during construction.

##### **1.05 TEMPORARY HEATING**

- A. Cost of Energy: By Contractor.
- B. Provide heating devices and heat as needed to maintain specified conditions for construction operations.
- C. Maintain minimum ambient temperature of 50°F in areas where construction is in progress, unless indicated otherwise in specifications.
- D. Existing facilities shall not be used.

- E. Prior to operation of permanent equipment for temporary heating purposes, verify that installation is approved for operation, equipment is lubricated and filters are in place. Provide and pay for operation, maintenance, and regular replacement of filters and worn or consumed parts.

#### **1.06 TEMPORARY COOLING**

- A. Cost of Energy: By Contractor.
- B. Provide cooling devices and cooling as needed to maintain specified conditions for construction operations.
- C. Maintain maximum ambient temperature of 80°F in areas where construction is in progress, unless indicated otherwise in specifications.
- D. Existing facilities shall not be used.
- E. Prior to operation of permanent equipment for temporary cooling purposes, verify that installation is approved for operation, equipment is lubricated and filters are in place. Provide and pay for operation, maintenance, and regular replacement of filters and worn or consumed parts.

#### **1.07 TEMPORARY VENTILATION**

- A. Utilize ventilation equipment as required to maintain clean air for construction operations.

#### **1.08 TEMPORARY WATER SERVICE**

- A. Cost of Water Used: By Contractor.
- B. Connect to existing water source.
  - 1. Exercise measures to conserve water.
- C. Extend branch piping with outlets located so water is available by hoses with threaded connections.

#### **PART 2 PRODUCTS - NOT USED**

#### **PART 3 EXECUTION - NOT USED**

#### **END OF SECTION**

## **SECTION 01600**

### **PRODUCT REQUIREMENTS**

#### **PART 1 GENERAL**

##### **1.01 SECTION INCLUDES**

- A. General product requirements.
- B. Re-use of existing products.
- C. Transportation, handling, storage and protection.
- D. Product option requirements.
- E. Substitution limitations and procedures.
- F. Procedures for Alabama A&M University -supplied products.
- G. Spare parts and maintenance materials.

##### **1.02 RELATED SECTIONS**

- A. Section 00100 - Bid Documents and Forms: Instructions to Bidders: Product options and substitution procedures prior to bid date.
- B. Section 01400 - Quality Requirements: Product quality monitoring.

##### **1.03 REFERENCES**

- A. NFPA 70 - National Electrical Code; National Fire Protection Association.

##### **1.04 SUBMITTALS**

- A. Product Data Submittals: Submit manufacturer's standard published data. Mark each copy to identify applicable products, models, options, and other data. Supplement manufacturers' standard data to provide information specific to this Project.
- B. Shop Drawing Submittals: Prepared specifically for this Project; indicate utility and electrical characteristics, utility connection requirements, and location of utility outlets for service for functional equipment and appliances.
- C. Sample Submittals: Illustrate functional and aesthetic characteristics of the product, with integral parts and attachment devices. Coordinate sample submittals for interfacing work.
  - 1. For selection from standard finishes, submit samples of the full range of the manufacturer's standard colors, textures, and patterns.
- D. Indicate utility and electrical characteristics, utility connection requirements, and location of utility outlets for service for functional equipment and appliances.

#### **PART 2 PRODUCTS**

##### **2.01 EXISTING PRODUCTS**

- A. Do not use materials and equipment removed from existing premises unless specifically required or permitted by the Contract Documents.
- B. Reused Products: Reused products include materials and equipment previously used in this or other construction, salvaged and refurbished as specified.

##### **2.02 NEW PRODUCTS**

- A. Provide new products unless specifically required or permitted by the Contract Documents.

- B. Do not use products having any of the following characteristics:
- C. Provide interchangeable components of the same manufacture for components being replaced.
- D. Motors: Refer to Section 15065, NEMA MG 1 Type. Specific motor type is specified in individual specification sections.
- E. Wiring Terminations: Provide terminal lugs to match branch circuit conductor quantities, sizes, and materials indicated. Size terminal lugs to NFPA 70, include lugs for terminal box.
- F. Cord and Plug: Provide minimum 6 foot cord and plug including grounding connector for connection to electric wiring system. Cord of longer length is specified in individual specification sections.

## **2.03 PRODUCT OPTIONS**

- A. Products Specified by Reference Standards or by Description Only: Use any product meeting those standards or description.
- B. Products Specified by Naming One or More Manufacturers: Use a product of one of the manufacturers named and meeting specifications, no options or substitutions allowed.
- C. Products Specified by Naming One or More Manufacturers with a Provision for Substitutions: Submit a request for substitution for any manufacturer not named.

## **2.04 SPARE PARTS AND MAINTENANCE PRODUCTS**

- A. Provide spare parts, maintenance, and extra products of types and in quantities specified in individual specification sections.
- B. Deliver to Project site and place in location as directed by Owner; obtain receipt prior to final payment.

## **PART 3 EXECUTION**

### **3.01 SUBSTITUTION PROCEDURES**

- A. Instructions to Bidders specify time restrictions for submitting requests for substitutions during the bidding period. Comply with requirements specified in this section.
- B. Mims Engineering will consider requests for substitutions only within 10 days after date of Agreement.
- C. Substitutions may be considered when a product becomes unavailable through no fault of the Contractor.
- D. Document each request with complete data substantiating compliance of proposed substitution with Contract Documents.
- E. A request for substitution constitutes a representation that the submitter:
  - 1. Has investigated proposed product and determined that it meets or exceeds the quality level of the specified product.
  - 2. Will provide the same warranty for the substitution as for the specified product.
  - 3. Will coordinate installation and make changes to other Work that may be required for the Work to be complete with no additional cost to Alabama A&M University.
  - 4. Waives claims for additional costs or time extension that may subsequently become apparent.

- 5. Will reimburse Alabama A&M University for all costs incurred for review or redesign services associated with approval by Architect or Architect's Consultants.
- F. Substitutions will not be considered when they are indicated or implied on shop drawing or product data submittals, without separate written request, or when acceptance will require revision to the Contract Documents.

### **3.02 TRANSPORTATION AND HANDLING**

- A. Coordinate schedule of product delivery to designated prepared areas in order to minimize site storage time and potential damage to stored materials.
- B. Transport and handle products in accordance with manufacturer's instructions.
- C. Transport materials in covered trucks to prevent contamination of product and littering of surrounding areas.
- D. Promptly inspect shipments to ensure that products comply with requirements, quantities are correct, and products are undamaged.
- E. Provide equipment and personnel to handle products by methods to prevent soiling, disfigurement, or damage.
- F. Arrange for the return of packing materials, such as wood pallets, where economically feasible.

### **3.03 STORAGE AND PROTECTION**

- A. Designate receiving/storage areas for incoming products so that they are delivered according to installation schedule and placed convenient to work area in order to minimize waste due to excessive materials handling and misapplication.
- B. Store and protect products in accordance with manufacturers' instructions.
- C. Store with seals and labels intact and legible.
- D. Store sensitive products in weather tight, climate controlled, enclosures in an environment favorable to product.
- E. For exterior storage of fabricated products, place on sloped supports above ground.
- F. Provide bonded off-site storage and protection when site does not permit on-site storage or protection.
- G. Cover products subject to deterioration with impervious sheet covering. Provide ventilation to prevent condensation and degradation of products.
- H. Store loose granular materials on solid flat surfaces in a well-drained area. Prevent mixing with foreign matter.
- I. Prevent contact with material that may cause corrosion, discoloration, or staining.
- J. Provide equipment and personnel to store products by methods to prevent soiling, disfigurement, or damage.
- K. Arrange storage of products to permit access for inspection. Periodically inspect to verify products are undamaged and are maintained in acceptable condition.

**END OF SECTION**

## **SECTION 01700**

### **EXECUTION REQUIREMENTS**

#### **PART 1 GENERAL**

##### **1.01 SECTION INCLUDES**

- A. Examination, preparation, and general installation procedures.
- B. Pre-installation meetings.
- C. Cutting and patching.
- D. Surveying for laying out the work.
- E. Cleaning and protection.
- F. Starting of systems and equipment.
- G. Demonstration and instruction of Alabama A&M University personnel.
- H. Closeout procedures, except payment procedures.

##### **1.02 RELATED SECTIONS**

- A. Section 01300 - Administrative Requirements: Submittals procedures.
- B. Section 01400 - Quality Requirements: Testing and inspection procedures.
- C. Section 01500 - Temporary Facilities and Controls: Temporary exterior enclosures.
- D. Section 01780 - Closeout Submittals: Project record documents, operation and maintenance data, warranties.
- E. Section 07840 – Fire stopping.

##### **1.03 SUBMITTALS**

- A. See Section 01300 - Administrative Requirements, for submittal procedures.
- B. Cutting and Patching: Submit written request in advance of cutting or alteration that affects:
  - 1. Structural integrity of any element of Project.
  - 2. Integrity of weather exposed or moisture resistant element.
  - 3. Efficiency, maintenance, or safety of any operational element.
  - 4. Visual qualities of sight exposed elements.
  - 5. Work of Alabama A&M University or separate Contractor.
  - 6. Include in request:
    - a. Identification of Project.
    - b. Location and description of affected work.
    - c. Necessity for cutting or alteration.
    - d. Description of proposed work and products to be used.
    - e. Alternatives to cutting and patching.
    - f. Effect on work of Alabama A&M University or separate Contractor.
    - g. Written permission of affected separate Contractor.
    - h. Date and time work will be executed.



#### **1.04 PROJECT CONDITIONS**

- A. Ventilate enclosed areas to assist cure of materials, to dissipate humidity, and to prevent accumulation of dust, fumes, vapors, or gases.
- B. Dust Control: Execute work by methods to minimize raising dust from construction operations. Provide positive means to prevent air-borne dust from dispersing into atmosphere.
- C. Noise Control: Provide methods, means, and facilities to minimize noise produced by construction operations.
- D. Pest Control: Provide methods, means, and facilities to prevent pests and insects from damaging the work.
- E. Rodent Control: Provide methods, means, and facilities to prevent rodents from accessing or invading premises.

#### **1.05 COORDINATION**

- A. Coordinate scheduling, submittals, and work of the various sections of the Project Manual to ensure efficient and orderly sequence of installation of interdependent construction elements.
- B. Notify affected utility companies and comply with their requirements.
- C. Verify that utility requirements and characteristics of new operating equipment are compatible with building utilities. Coordinate work of various sections having interdependent responsibilities for installing, connecting to, and placing in service, such equipment.
- D. Coordinate space requirements, supports, and installation of mechanical and electrical work that are indicated diagrammatically on Drawings. Follow routing shown for pipes, ducts, and conduit, as closely as practicable; place runs parallel with lines of building. Utilize spaces efficiently to maximize accessibility for other installations, for maintenance, and for repairs.
- E. In finished areas except as otherwise indicated, conceal pipes, ducts, and wiring within the construction. Coordinate locations of fixtures and outlets with finish elements.
- F. Coordinate completion and clean-up of work of separate sections.
- G. After Alabama A&M University occupancy of premises, coordinate access to site for correction of defective work and work not in accordance with Contract Documents, to minimize disruption of Alabama A&M University 's activities.

### **PART 2 PRODUCTS**

#### **2.01 PATCHING MATERIALS**

- A. New Materials: As specified in product sections; match existing products and work for patching and extending work.
- B. Type and Quality of Existing Products: Determine by inspecting and testing products where necessary, referring to existing work as a standard.
- C. Product Substitution: For any proposed change in materials, submit request for substitution described in Section 01600.

### **PART 3 EXECUTION**

#### **3.01 EXAMINATION**

- A. Verify that existing site conditions and substrate surfaces are acceptable for subsequent work. Start of work means acceptance of existing conditions.

- B. Verify that existing substrate is capable of structural support or attachment of new work being applied or attached.
- C. Examine and verify specific conditions described in individual specification sections.
- D. Take field measurements before confirming product orders or beginning fabrication, to minimize waste due to over-ordering or mis-fabrication.
- E. Verify that utility services are available, of the correct characteristics, and in the correct locations.
- F. Prior to Cutting: Examine existing conditions prior to commencing work, including elements subject to damage or movement during cutting and patching. After uncovering existing work, assess conditions affecting performance of work. Beginning of cutting or patching means acceptance of existing conditions.

### **3.02 PREPARATION**

- A. Clean substrate surfaces prior to applying next material or substance.
- B. Seal cracks or openings of substrate prior to applying next material or substance.
- C. Apply manufacturer required or recommended substrate primer, sealer, or conditioner prior to applying any new material or substance in contact or bond.

### **3.03 PREINSTALLATION MEETINGS**

- A. When required in individual specification sections, convene a pre-installation meeting at the site prior to commencing work of the section.
- B. Require attendance of parties directly affecting, or affected by, work of the specific section.
- C. Notify Mims Engineering four days in advance of meeting date.

### **3.04 LAYING OUT THE WORK**

- A. Verify locations of survey control points prior to starting work.
- B. Promptly notify Mims Engineering of any discrepancies discovered.
- C. Contractor shall locate and protect survey control and reference points.
- D. Utilize recognized engineering survey practices.
- E. Establish a minimum of two permanent bench marks on site, referenced to established control points. Record locations, with horizontal and vertical data, on project record documents.
- F. Establish elevations, lines and levels. Locate and lay out by instrumentation and similar appropriate means:
  - 1. Site improvements including pavements; stakes for grading, fill and topsoil placement; utility locations, slopes, and invert elevations.
  - 2. Grid or axis for structures.
  - 3. Building foundation, column locations, ground floor elevations.
- G. Periodically verify layouts by same means.
- H. Maintain a complete and accurate log of control and survey work as it progresses.

### **3.05 GENERAL INSTALLATION REQUIREMENTS**

- A. Install products as specified in individual sections, in accordance with manufacturer's instructions and recommendations, and so as to avoid waste due to necessity for replacement.
- B. Make vertical elements plumb and horizontal elements level, unless otherwise indicated.

- C. Install equipment and fittings plumb and level, neatly aligned with adjacent vertical and horizontal lines, unless otherwise indicated.
- D. Make consistent texture on surfaces, with seamless transitions, unless otherwise indicated.
- E. Make neat transitions between different surfaces, maintaining texture and appearance.

### **3.06 CUTTING AND PATCHING**

- A. Execute cutting and patching including excavation and fill to complete the work, to uncover work in order to install improperly sequenced work, to remove and replace defective or non-conforming work, to remove samples of installed work for testing when requested, to provide openings in the work for penetration of mechanical and electrical work, to execute patching to complement adjacent work, and to fit products together to integrate with other work.
- B. Execute work by methods that avoid damage to other work and that will provide appropriate surfaces to receive patching and finishing. In existing work, minimize damage and restore to original condition.
- C. Employ skilled and experienced installer to perform cutting for weather exposed and moisture resistant elements, and sight exposed surfaces.
- D. Cut rigid materials using masonry saw or core drill. Pneumatic tools not allowed without prior approval.
- E. Restore work with new products in accordance with requirements of Contract Documents.
- F. Fit work air tight to pipes, sleeves, ducts, conduit, and other penetrations through surfaces.
- G. At penetrations of fire rated walls, partitions, ceiling, or floor construction, completely seal voids with fire rated material in accordance with Section 07840, to full thickness of the penetrated element.
- H. Refinish surfaces to match adjacent finish. For continuous surfaces, refinish to nearest intersection or natural break. For an assembly, refinish entire unit.
- I. Make neat transitions. Patch work to match adjacent work in texture and appearance. Where new work abuts or aligns with existing, perform a smooth and even transition.
- J. Patch or replace surfaces that are damaged, lifted, discolored, or showing other imperfections due to patching work. Repair substrate prior to patching finish. Finish patches to produce uniform finish and texture over entire area. When finish cannot be matched, refinish entire surface to nearest intersections.

### **3.07 PROGRESS CLEANING**

- A. Maintain areas free of waste materials, debris, and rubbish. Maintain site in a clean and orderly condition.
- B. Remove debris and rubbish from pipe chases, plenums, attics, crawl spaces, and other closed or remote spaces, prior to enclosing the space.
- C. Broom and vacuum clean interior areas prior to start of surface finishing, and continue cleaning to eliminate dust.
- D. Collect and remove waste materials, debris, and trash/rubbish from site periodically and dispose off-site; do not burn or bury.

### **3.08 PROTECTION OF INSTALLED WORK**

- A. Protect installed work from damage by construction operations.
- B. Provide special protection where specified in individual specification sections.
- C. Provide temporary and removable protection for installed products. Control activity in immediate work area to prevent damage.
- D. Provide protective coverings at walls, projections, jambs, sills, and soffits of openings.
- E. Protect finished floors, stairs, and other surfaces from traffic, dirt, wear, damage, or movement of heavy objects, by protecting with durable sheet materials.
- F. Prohibit traffic or storage upon waterproofed or roofed surfaces. If traffic or activity is necessary, obtain recommendations for protection from waterproofing or roofing material manufacturer.
- G. Prohibit traffic from landscaped areas.
- H. Remove protective coverings when no longer needed; reuse or recycle plastic coverings if possible.

### **3.09 SYSTEMS STARTUP**

- A. Coordinate schedule for start-up of various equipment and systems.
- B. Notify Mims Engineering and owner seven days prior to start-up of each item.
- C. Verify that each piece of equipment or system has been checked for proper lubrication, drive rotation, belt tension, control sequence, and for conditions that may cause damage.
- D. Verify tests, meter readings, and specified electrical characteristics agree with those required by the equipment or system manufacturer.
- E. Verify that wiring and support components for equipment are complete and tested.
- F. Execute start-up under supervision of applicable Contractor personnel in accordance with manufacturers' instructions.
- G. Submit a written report that equipment or system has been properly installed and is functioning correctly.

### **3.10 DEMONSTRATION AND INSTRUCTION**

- A. Demonstrate operation and maintenance of products to Alabama A&M University's personnel two weeks prior to date of final inspection.
- B. Demonstrate start-up, operation, control, adjustment, trouble-shooting, servicing, maintenance, and shutdown of each item of equipment at agreed time, at designated location.
- C. For equipment or systems requiring seasonal operation, perform demonstration for other season within six months.
- D. Provide a qualified person who is knowledgeable about the Project to perform demonstration and instruction of owner personnel.
- E. Utilize operation and maintenance manuals as basis for instruction. Review contents of manual with Alabama A&M University's personnel in detail to explain all aspects of operation and maintenance.
- F. Prepare and insert additional data in operations and maintenance manuals when need for

additional data becomes apparent during instruction.

- G. The amount of time required for instruction on each item of equipment and system is that specified in individual sections.

### **3.11 ADJUSTING**

- A. Adjust operating products and equipment to ensure smooth and unhindered operation.
- B. Testing, adjusting, and balancing HVAC systems: See Section 15950.

### **3.12 FINAL CLEANING**

- A. Execute final cleaning prior to final project assessment.
- B. Use cleaning materials that are non-hazardous.
- C. Clean interior and exterior glass, surfaces exposed to view; remove temporary labels, stains and foreign substances, polish transparent and glossy surfaces, vacuum carpeted and soft surfaces.
- D. Clean equipment and fixtures to a sanitary condition with cleaning materials appropriate to the surface and material being cleaned.
- E. Replace filters of operating equipment.
- F. Clean debris from roofs, gutters, downspouts, and drainage systems.
- G. Clean site; sweep paved areas, rake clean landscaped surfaces.
- H. Remove waste, surplus materials, trash/rubbish, and construction facilities from the site; dispose of in legal manner; do not burn or bury.

### **3.13 CLOSEOUT PROCEDURES**

- A. Make submittals that are required by governing or other authorities.
  - 1. Provide copies to Mims Engineering.
- B. Accompany Architect on preliminary inspection to determine items to be listed for completion or correction in Contractor's Notice of Substantial Completion.
- C. Notify Mims Engineering when work is considered ready for Substantial Completion.
- D. Submit written certification that Contract Documents have been reviewed, work has been inspected, and that work is complete in accordance with Contract Documents and ready for Mims Engineering's review.
- E. Alabama A&M University will occupy portions of the building as specified in Section 01100.
- F. Correct items of work listed in executed Certificates of Substantial Completion and comply with requirements for access to Alabama A&M University-occupied areas.
- G. Accompany Architect on preliminary final inspection.
- H. Notify Mims Engineering when work is considered finally complete.
- I. Complete items of work determined by Mims Engineering's final inspection.

### **3.14 MAINTENANCE SERVICE**

- A. Furnish service and maintenance of components indicated in specification sections during the warranty period.
- B. Examine system components at a frequency consistent with reliable operation. Clean, adjust, and lubricate as required.

- C. Include systematic examination, adjustment, and lubrication of components. Repair or replace parts whenever required. Use parts produced by the manufacturer of the original component.
- D. Maintenance service shall not be assigned or transferred to any agent or Subcontractor without prior written consent of the Alabama A&M University.

**END OF SECTION**

## **SECTION 01780**

### **CLOSEOUT SUBMITTALS**

#### **PART 1 GENERAL**

##### **1.01 SECTION INCLUDES**

- A. Project Record Documents.
- B. Operation and Maintenance Data.
- C. Warranties and bonds.

##### **1.02 RELATED SECTIONS**

- A. Section 00700 - General Conditions: Performance bond and labor and material payment bonds, warranty, and correction of work.
- B. Section 01300 - Administrative Requirements: Submittals procedures, shop drawings, product data, and samples.
- C. Section 01700 - Execution Requirements: Contract closeout procedures.
- D. Individual Product Sections: Specific requirements for operation and maintenance data.
- E. Individual Product Sections: Warranties required for specific products or Work.

##### **1.03 SUBMITTALS**

- A. Project Record Documents: Submit documents to Mims Engineering with claim for final Application for Payment.
- B. Operation and Maintenance Data:
  - 1. Submit two copies of preliminary draft or proposed formats and outlines of contents before start of Work. Mims Engineering will review draft and return one copy with comments.
  - 2. For equipment, or component parts of equipment put into service during construction and operated by Alabama A&M University, submit completed documents within ten days after acceptance.
  - 3. Submit one copy of completed documents 15 days prior to final inspection. This copy will be reviewed and returned after final inspection, with Mims Engineering comments. Revise content of all document sets as required prior to final submission.
  - 4. Submit two sets of revised final documents in final form within 10 days after final inspection.
- C. Warranties and Bonds:
  - 1. For equipment or component parts of equipment put into service during construction with Alabama A&M University's permission, submit documents within 10 days after acceptance.
  - 2. Make other submittals within 10 days after Date of Substantial Completion, prior to final Application for Payment.
  - 3. For items of Work for which acceptance is delayed beyond Date of Substantial Completion, submit within 10 days after acceptance, listing the date of acceptance as the beginning of the warranty period.

#### **PART 2 PRODUCTS - NOT USED**

#### **PART 3 EXECUTION**

##### **3.01 PROJECT RECORD DOCUMENTS**

- A. Maintain on site one set of the following record documents; record actual revisions to the Work:
  - 1. Drawings.
  - 2. Specifications.
  - 3. Addenda.
  - 4. Change Orders and other modifications to the Contract.
  - 5. Reviewed shop drawings, product data, and samples.
  - 6. Manufacturer's instruction for assembly, installation, and adjusting.
- B. Ensure entries are complete and accurate, enabling future reference by Alabama A&M University.
- C. Store record documents separate from documents used for construction.
- D. Record information concurrent with construction progress.
- E. Specifications: Legibly mark and record at each product section description of actual products installed, including the following:
  - 1. Manufacturer's name and product model and number.
  - 2. Product substitutions or alternates utilized.
  - 3. Changes made by Addenda and modifications.
- F. Record Drawings and Shop Drawings: Legibly mark each item to record actual construction including:
  - 1. Measured depths of foundations in relation to finish first floor datum.
  - 2. Measured horizontal and vertical locations of underground utilities and appurtenances, referenced to permanent surface improvements.
  - 3. Measured locations of internal utilities and appurtenances concealed in construction, referenced to visible and accessible features of the Work.
  - 4. Field changes of dimension and detail.
  - 5. Details not on original Contract drawings.

### **3.02 OPERATION AND MAINTENANCE DATA**

- A. For Each Product or System: List names, addresses and telephone numbers of Subcontractors and suppliers, including local source of supplies and replacement parts.
- B. Product Data: Mark each sheet to clearly identify specific products and component parts, and data applicable to installation. Delete inapplicable information.
- C. Drawings: Supplement product data to illustrate relations of component parts of equipment and systems, to show control and flow diagrams.
- D. Typed Text: As required to supplement product data. Provide logical sequence of instructions for each procedure, incorporating manufacturer's instructions.

### **3.03 OPERATION AND MAINTENANCE DATA FOR MATERIALS AND FINISHES**

- A. For Each Product, Applied Material, and Finish:
  - 1. Product data, with catalog number, size, composition, and color and texture designations.
  - 2. Information for re-ordering custom manufactured products.
- B. Instructions for Care and Maintenance: Manufacturer's recommendations for cleaning agents and methods, precautions against detrimental cleaning agents and methods, and recommended schedule for cleaning and maintenance.



- C. Moisture protection and weather-exposed products: Include product data listing applicable reference standards, chemical composition, and details of installation. Provide recommendations for inspections, maintenance, and repair.
- D. Additional information as specified in individual product specification sections.
- E. Provide a listing in Table of Contents for design data, with tabbed fly sheet and space for insertion of data.

### **3.04 OPERATION AND MAINTENANCE DATA FOR EQUIPMENT AND SYSTEMS**

- A. For Each Item of Equipment and Each System:
  - 1. Description of unit or system, and component parts.
  - 2. Identify function, normal operating characteristics, and limiting conditions.
  - 3. Include performance curves, with engineering data and tests.
  - 4. Complete nomenclature and model number of replaceable parts.
- B. Panelboard Circuit Directories: Provide electrical service characteristics, controls, and communications; typed.
- C. Include color coded wiring diagrams as installed.
- D. Operating Procedures: Include start-up, break-in, and routine normal operating instructions and sequences. Include regulation, control, stopping, shut-down, and emergency instructions. Include summer, winter, and any special operating instructions.
- E. Maintenance Requirements: Include routine procedures and guide for preventative maintenance and trouble shooting; disassembly, repair, and reassembly instructions; and alignment, adjusting, balancing, and checking instructions.
- F. Provide servicing and lubrication schedule, and list of lubricants required.
- G. Include manufacturer's printed operation and maintenance instructions.
- H. Include sequence of operation by controls manufacturer.
- I. Provide original manufacturer's parts list, illustrations, assembly drawings, and diagrams required for maintenance.
- J. Provide control diagrams by controls manufacturer as installed.
- K. Provide Contractor's coordination drawings, with color coded piping diagrams as installed.
- L. Provide charts of valve tag numbers, with location and function of each valve, keyed to flow and control diagrams.
- M. Provide list of original manufacturer's spare parts, current prices, and recommended quantities to be maintained in storage.
- N. Include test and balancing reports.
- O. Additional Requirements: As specified in individual product specification sections.

### **3.05 OPERATION AND MAINTENANCE MANUALS**

- A. Binders: Commercial quality, 8-1/2 by 11 inch three D side ring binders with durable plastic covers; 2 inch maximum ring size. When multiple binders are used, correlate data into related consistent groupings.
- B. Cover: Identify each binder with typed or printed title OPERATION AND MAINTENANCE INSTRUCTIONS; identify title of Project; identify subject matter of contents.

- C. Provide tabbed dividers for each separate product and system, with typed description of product and major component parts of equipment.
- D. Text: Manufacturer's printed data, or typewritten data on 24 pound paper.
- E. Drawings: Provide with reinforced punched binder tab. Bind in with text; fold larger drawings to size of text pages.
- F. Arrange content by systems under section numbers and sequence of Table of Contents of this Project Manual.
- G. Contents: Prepare a Table of Contents for each volume, with each product or system description identified, in three parts as follows:
  - 1. Part 1: Directory, listing names, addresses, and telephone numbers of Mims Engineering, Contractor, Subcontractors, and major equipment suppliers.
  - 2. Part 2: Operation and maintenance instructions, arranged by system and subdivided by specification section. For each category, identify names, addresses, and telephone numbers of Subcontractors and suppliers. Identify the following:
    - a. Significant design criteria.
    - b. List of equipment.
    - c. Parts list for each component.
    - d. Operating instructions.
    - e. Maintenance instructions for equipment and systems.
    - f. Maintenance instructions for special finishes, including recommended cleaning methods and materials, and special precautions identifying detrimental agents.
  - 3. Part 3: Project documents and certificates, including the following:
    - a. Shop drawings and product data.
    - b. Air and water balance reports.
    - c. Certificates.
    - d. Photocopies of warranties and bonds.
- H. Provide a listing in Table of Contents for design data, with tabbed dividers and space for insertion of data.
- I. Table of Contents: Provide title of Project; names, addresses, and telephone numbers of Mims Engineering, Consultants, and Contractor with name of responsible parties; schedule of products and systems, indexed to content of the volume.

### **3.06 WARRANTIES AND BONDS**

- A. Obtain warranties and bonds, executed in duplicate by responsible Subcontractors, suppliers, and manufacturers, within 10 days after completion of the applicable item of work. Except for items put into use with Alabama A&M University's permission, leave date of beginning of time of warranty until the Date of Substantial completion is determined.
- B. Verify that documents are in proper form, contain full information, and are notarized.
- C. Co-execute submittals when required.
- D. Retain warranties and bonds until time specified for submittal.
- E. Include originals of each in operation and maintenance manuals, indexed separately on Table of Contents.
- F. Manual: Bind in commercial quality 8-1/2 by 11 inch three D side ring binders with durable plastic covers.

- G. Cover: Identify each binder with typed or printed title WARRANTIES AND BONDS, with title of Project; name, address and telephone number of Contractor and equipment supplier; and name of responsible company principal.
- H. Table of Contents: Neatly typed, in the sequence of the Table of Contents of the Project Manual, with each item identified with the number and title of the specification section in which specified, and the name of product or work item.
- I. Separate each warranty or bond with index tab sheets keyed to the Table of Contents listing. Provide full information, using separate typed sheets as necessary. List Subcontractor, supplier, and manufacturer, with name, address, and telephone number of responsible principal.

**END OF SECTION**

## **SECTION 23 05 00**

### **MECHANICAL GENERAL PROVISIONS**

#### **PART 1 GENERAL**

##### **1.01 DESCRIPTION**

- A. The other Contract Documents complement the requirements of this Section. The General Requirements apply to the work of this Section.

##### **1.02 SCOPE OF WORK**

- A. The Work shall include the furnishings of systems, equipment, and materials specified in this Division and as required by Contract Documents to include: supervision, operation, methods, and labor for the fabrication, installation, start-up, and tests for the complete mechanical installation.
- B. Drawings for the Work are diagrammatic, intended to convey the scope of the Work and to indicate the general arrangement and locations of the Work. Because of the scale of the Drawings, certain basic items such as pipe fittings, access panels, and sleeves may not be shown. This Contractor shall be responsible for selecting the equipment to fit the space provided. The location and sizes for ductwork, pipe fittings, sleeves, inserts, and other basic items required by code and other sections shall be coordinated and included for the proper installation of the work.
- C. Equipment Specification may not deal individually with minute items required such as components, parts, controls, and devices which may be required to produce the equipment performance specified or as required to meet the equipment warranties. Where such items are required, they shall be included by the supplier of the equipment, whether or not specifically called for in the Contract Documents.
- D. Where the words "provide", "furnish", "include", or "install" are used in the Specification or on the Drawings, it shall mean to furnish, install, and test complete and ready for operation, the items mentioned. If an item is indicated in the Contract Documents, it shall be considered sufficient for including same in the work.
- E. Where noted on the Drawings or where called for in other Sections of the Project Manual, the Contractor for this Division shall install equipment furnished by Others, and shall make required service connections. Contractor shall verify with the supplier of the equipment the requirements for the installation.
- F. Coordinate with all trades in submittal of shop drawings. Shop drawings shall be prepared clearly indicating all applicable components. Space conditions shall be detailed to the satisfaction of all concerned trades, subject to review and final acceptance by the Engineer. In the event that the Contractor installs his work before coordinating with other trades or so as to cause any interference with work of other trades, the necessary changes shall be made in the work to correct the condition, at no additional cost to the Owner.

##### **1.03 CODES AND STANDARDS**

- A. Conform to latest edition of governing codes, ordinances, or regulations of city, county, state, or utility company having jurisdiction. Where local codes are not applicable, conform to

Standard Plumbing Code; Standard Mechanical Code; Standard Fire Prevention Code and National Electrical Code.

#### **1.04 CONTRACTOR'S QUALIFICATIONS**

- A. The qualifications of the Mechanical Contractor for this project shall be as follows:
  - 1. The Contractor shall have been in the mechanical contracting business for the last five (5) consecutive years and under their current corporation name with essentially the same corporate officers.
  - 2. The Contractor shall have successfully completed at least two projects of comparable size and scope.
  - 3. The Contractor's main office shall be located within 100 miles driving distance of the project. If the Contractor's office is located more than 100 miles from job site, the Contractor shall submit for approval, 10 working days prior to bidding the job, the name of the service company within a 100 mile radius of the job site, who will be responsible for any/all service required during the warranty period. In either case, the Contractor shall be responsible for having a qualified technician on the job site within 4 hours after receiving a service call.
  - 4. When requested, the contractor shall provide substantiating proof of these requirements.

#### **1.05 FEES, PERMITS, AND INSPECTIONS**

- A. Secure all permits and pay all fees required in connection with the Work.
- B. Coordinate and provide such inspections as are required by the Authorities with jurisdiction over the site.
- C. Where applications are required for procuring of services to the building, prepare and file such application with the Utility Company. Furnish all information required in connection with the application in the form required by the Utility Company.

#### **1.06 ACTIVE SERVICES**

- A. Existing active services; water, gas, sewer, electric, are to be located and shall be protected against damage. Do not prevent or disturb operation of active services which are to remain. If active services are encountered which require relocation, make request to authorities with jurisdiction for determination of procedures. Where existing services are to be abandoned, they shall be terminated in conformance with requirements of the Utility or Municipality having jurisdiction.

#### **1.07 SITE INSPECTION**

- A. Contractor shall inspect the site to familiarize himself with conditions of the site which will affect his work and shall verify points of connection with utilities, routing of outside piping to include required clearances from any existing structures, trees or other obstacles.
- B. Extra payment will not be allowed for changes in the Work required because of Contractor's failure to make this inspection.

**1.08 OPENINGS, CUTTING, AND PATCHING**

- A. Coordinate the placing of openings in the new structure as required for the installation of the Mechanical Work.
- B. When additional patching is required due to failure to inspect work; then provide the patching required to properly close the openings, to include patch painting.
- C. When cutting and patching of the structure is made necessary due to failure to install piping, ducts, sleeves, or equipment on schedule, or due to failure to furnish, on schedule, the information required for the leaving of openings, then provide the cutting and patching as required.

**1.09 WIRING FOR MECHANICAL EQUIPMENT**

- A. Division 26 shall provide power services for motors and equipment furnished by this Contractor to include safety disconnect switches, starters and final connections.
- B. Division 23 shall provide all motors and contactors for equipment furnished under this Division, except where they are an integral part of a motor control center which is provided under another Division.
- C. Provide internal wiring, alarm wiring including for fire protection and/or security, control wiring, and interlock wiring for equipment furnished, to include temperature control wiring.
- D. Coordinate with Division 26 all motors and other mechanical equipment which require electrical services. Provide schedule which shall include the exact location for rough-in, electrical load, size, and electrical characteristics for all services required.
- E. Where motors or equipment furnished require larger services or services of different electrical characteristics than those called for on the Electrical Drawings, this contractor shall coordinate with the electrical contractor and the Electrical Engineer to provide a larger service as required, the cost of which shall be the responsibility of this contractor.
- F. Electrical work provided under Division 23 shall conform to the requirements of Division 26.

**1.10 SUBSTITUTIONS**

- A. Any equipment submitted as "equal" to the basis of design shall be accompanied with a comparison letter from the vendor stating any differences from the equipment being submitted and the basis of design. A letter is also to be submitted from the vendor, on the vendor's letterhead, stating that the vendor has received a copy of the job specifications, all addendums and any necessary drawings.
- B. Substitutions for the scheduled and specified equipment shall only be done with the prior approval of the engineer, and shall be obtained in writing. Prior approvals shall be obtained no less than ten working days prior to the bid date. Prior approval shall not relieve the contractor of supplying equipment that meets the specifications, capacities, efficiencies, physical dimensions, etc.

**1.11 PROTECTION**

- A. Special care shall be taken for the protection of equipment furnished. Equipment and material shall be completely protected from weather elements, painting, plaster, etc. until the

project is completed. Damage from rust, paint, scratches, etc. shall be repaired as required to restore equipment to original condition.

- B. Where the installation or connection of equipment requires work in areas previously finished by other Contractors, the area shall be protected and not marred, soiled, or otherwise damaged during the course of such work. Contractor shall arrange with the other Contractors for repairing and refinishing of such areas which may be damaged.
- C. When welding is required inside building, provide one man for a fire watch. Fire watch shall require adequate protection of existing surfaces and observance of lower floors where penetrations exist.

#### **1.12 SUBMITTALS**

##### **A. General**

- 1. Submit to Engineer shop drawings and product data required by the drawings and specifications.
- 2. Contractor shall compile all data including but not limited to ductwork materials and construction details, ductwork layout, manufacturers catalog and product data, controls wiring diagrams and material data, piping, insulation, water treatment, and test and balance.
- 3. Submit a minimum of 7 copies of data, more if required by the Architect.

##### **B. Submittal Requirements**

- 1. Prepare submittals compiled in a 3 ring, hard bound, loose leaf binder. The face of the binder shall be clearly marked with the project title and number, the name of the Owner, Architect, Engineer, General Contractor and this contractor.
- 2. The first page inside the binder shall provide an index, numerically indicating all sections applicable to this submittal.
- 3. Separate binders shall be provided for HVAC, plumbing and fire protection trades.
- 4. Provide tab dividers for each section submitted. In the event an item appears on the drawings not specifically covered by the specifications, provide an additional numeric tab at the end of the index detailing the item and include the submittal data in the binder.
- 5. All equipment included on the submittal sheets shall be marked to indicate the "Tag" name or number of the equipment as shown on the drawings. The equipment shall be high-lighted, where necessary, to clarify which items are being submitted.
- 6. For the ductwork submittals, the contractor will be provided with an electronic copy of the mechanical floor plans. Ductwork layout submittals shall consist of one copy on a reproducible medium such as mylar. The drawings shall be on standard size sheets of 24" x 36" or 30" x 42". The reproducible copy shall be returned to the contractor with the engineers approval stamp and comments.

7. Submit only complete project submittals. Partial submittals or submittals not complying with the above requirements shall be returned to the contractor unmarked and rejected.
8. In the interest of project expediency the contractor may pre-submit long lead items for pre-approval. However, the contractor shall not be relieved of including the same data as required by submittal binder and shall be included therein.
9. The Contractor may turn in submittals without control drawings if they require a longer production time. All other items shall be included.
10. Provide a tab for items not included and include an explanation of why item is not included in the submittal and the expected submittal date.
11. Review shop drawings and product data prior to submission to Engineer.
12. Verify field measurements, field construction criteria, catalog numbers, and similar data.
13. Coordinate each submittal with work of the project and Contract Documents.
14. Contractor's responsibility for deviations in submittals from requirements of Contract Documents is not relieved by Engineer's review of submittals, unless Engineer gives written acceptance of specific deviations.
15. Notify Engineer in writing of deviations from requirements of Contract Documents at time submittals are made. A "deviation" shall be construed to mean a minor change to the sequence indicated on drawings or specification. A "deviation" is not intended to allow substitutions or product options.
16. Do not begin work which requires submittals until submittals have been returned with Engineer's stamp and initials or signature indicating review and approval. Materials and equipment that were installed prior to being not approved shall be removed and replaced with approved items at no additional cost to other parties.
17. Shop Drawings and/or submittals requiring resubmission to the Engineer due to non-compliance with the Contract Documents and/or incompleteness shall be thoroughly reviewed by the Contractor prior to delivery to the Engineer for review. The Contractor shall ensure the completeness and compliance of the submittal materials and shall reimburse the Engineer at their standard hourly billing rates for review of submittals/shop drawings beyond the second submission.
18. Attention is directed to the fact that Engineer's review is only to check for general conformance with the design concept of the project and general compliance with Contract Documents. No responsibility is assumed by Engineer for correctness of dimensions, details, quantities, procedures shown on shop drawings or submittals.
19. Omission in shop drawings of any materials indicated in Contract Drawings, mentioned in Specifications, or required for proper execution and completion of Work, does not relieve the Contractor from responsibility for providing such materials.
20. Approval of a separate or specified item does not necessarily constitute approval of an assembly in which item functions.



### 1.13 OPERATING AND MAINTENANCE MANUALS

#### A. General

1. Provide three up-to-date copies of shop drawings, product data, and other information described in this Section for use in compiling operating and maintenance manuals.
2. Provide legible submittals made by permanent reproduction copy equipment from typewritten or typeset originals.
3. Pre-punch 8-1/2 inch x 11 inch sheets for standard three ring binders.
4. Submit larger sheets in rolled and protected packages.

#### B. Compilation

1. The Contractor will receive shop drawings, brochures, materials lists, technical data of all types, warranties, guarantees, and other pertinent information and will assemble, catalog, and file information in loose-leaf, hardback three-ring binders.
2. Submittal Format: (Provide each of the following items, as applicable, for each required item or system. Requirements will vary, depending on the equipment. Refer to specific Specification section requirements.)
  - a. Item: (Use appropriate Section title.)
  - b. System Description: (Provide a detailed narrative description of each system, describing function, components, capacities, controls and other data specified, and including the following:
    - (1.) Number of.
    - (2.) Sizes.
    - (3.) Type of operation.
    - (4.) Detailed operating instructions, including start-up and shut-down of each system, with indications for position of all controls, as applicable.
    - (5.) Wiring Diagrams: (Complete wiring diagrams for internally wired components including controls.)
    - (6.) Operating Sequence: (Describe in detail.)
    - (7.) Manufacturers Data: (Provide catalog data sheets, specifications, nameplate data and parts list.)
    - (8.) Preventative Maintenance: (Provide manufacturer's detailed maintenance recommendations.)
    - (9.) Trouble Shooting: (Provide manufacturer's sequence for trouble-shooting procedures for operational problems.)

- (10.) Extra Parts: (Provide a listing of extra stock parts furnished as part of the Contract.)
- (11.) Warranties: (Provide specific manufacturer's warranty. List each component and control covered, with day and date warranty begins, date of expiration, and name, address and telephone number of person to contact regarding problems during warranty period.)
- (12.) Directory: (Provide names, addresses and telephone numbers of Contractor, its subcontractors, suppliers, installers and authorized service and parts suppliers. Format as follows:  
Contractor:  
Address:  
Telephone No.:  
Person to Contact:  
  
Subcontractor:  
Address:  
Telephone No.:  
Person to Contact:  
  
Installer:  
Address:  
Telephone No.:  
Person to Contact:  
  
Manufacturer:  
Address:  
Telephone No.:  
Person to Contact:  
  
Local Service Representative:  
Address:  
Telephone No.:  
Person to Contact:

#### 1.14 RECORD DRAWINGS

##### A. Detailed Requirements for Record Drawings

- 1. During the progress of the work, the Contractor shall require the job superintendent for the plumbing, air conditioning, heating, ventilating, and fire protection subcontractors to record on their field sets of drawings the exact locations, as installed, of all conduits, pipes, and ducts whether concealed or exposed which were not installed exactly as shown on the contract drawings.
- 2. The Contractor shall submit redline as-built drawings to the Engineer for review.
- 3. The Engineer shall authorize the Contractor to produce and distribute the redline as-built drawings in PDF format as follows:
  - a. One (1) Computer Disc (CD) to the Engineer.
  - b. One (1) CD to the Architect.

- c. Three (3) hard copies full size
- d. Two (2) CD to the Owner.

#### **1.15 SUBSTITUTIONS AND PRODUCT OPTIONS**

- A. For products specified only by reference standard, select product meeting that standard, by any manufacturer.
- B. For products specified by naming several products or manufacturers, select any one of products and manufacturers named which complies with specifications.
- C. For products specified by naming several products or manufacturers and stating "or equivalent", "or equal", or "or Engineer approved equivalent", or similar wording, submit a request for proposed substitutions for any product or manufacturer which is not specifically named; for review and approval by the Engineer.
- D. For products specified by naming only one product and manufacturer, there may be an option of an Engineer approval of a product of equal or greater quality or size.

#### **1.16 SUBSTITUTION SUBMISSIONS**

- A. Contractor's Base Bid shall be per contract documents.
- B. Submit separate request for each substitution. Support each request with:
  - 1. Complete data substantiating compliance of proposed substitution with requirements stated in contract documents:
    - a. Product identification, including manufacturer's name and address.
    - b. Manufacturer's literature; identify:
      - (1.) Product description.
      - (2.) Reference standards.
      - (3.) Performance and test data.
    - c. Name and address of at least two similar projects on which product has been used, and date of each installation.
    - d. Itemized comparison of the proposed substitution with product specified; list significant variations.
    - e. Data relating to changes in construction schedule.
    - f. Any effect of substitution on separate contracts.
    - g. List of changes required in other work or products.
    - h. Designation of availability of maintenance services, sources of replacement materials.
    - i. Provide certification of product compatibility with adjacent materials.

- C. Substitutions will not be considered for acceptance when:
  - 1. They are indicated or implied on shop drawings or product data submittals without a formal request from Contractor or his supplier prior to bid.
  - 2. Acceptance will require substantial revision of contract documents.
  - 3. In judgement of Engineer, do not include adequate information necessary for a complete evaluation.
  - 4. Substitute products shall not be ordered or installed without written acceptance of Engineer.
  - 5. Engineer will determine acceptability of proposed substitutions.

#### **1.17 CONTRACTOR'S SUBSTITUTION RESPONSIBILITIES**

- A. In making formal request for substitution, Contractor represents that:
  - 1. He has investigated proposed product and has determined that it is equivalent to or superior in all respects to that specified.
  - 2. He will provide same warranties or bonds for substitution as for product specified.
  - 3. He will coordinate installation of accepted substitution into the work, and will make such changes as may be required for the work to be complete in all respects. This includes revisions due to changes in electrical characteristics, physical size and weight, service requirements, service clearances, etc.
  - 4. He waives claims for additional costs caused by substitution which may subsequently become apparent.
- B. The contractor shall have included all costs associated with the substitution for the specified products or materials, and that no additional cost will be incurred by any other party in order to fully incorporate the substituted item(s).
- C. The contractor agrees to reimburse the Architect/Engineer for any architectural or engineering re-design that is required by the substitution to be fully incorporated. The reimbursement shall be at the Architect/Engineer's standard billing rate.

#### **1.18 ENGINEER DUTIES**

- A. Review Contractor's requests for substitutions with reasonable promptness.
- B. Notify Contractor in writing of decision to accept or reject requested substitution.

#### **1.19 FINISHING**

- A. General: Prior to acceptance of the installation and final payment of the Contract, the Contractor shall perform the work outlined herein.
- B. Cleaning: At the conclusion of the construction, the site and structure shall be cleaned thoroughly of all debris and unused materials remaining from the mechanical construction. All closed off spaces shall be cleaned of all packing boxes, wood frame members, and other waste materials used in the mechanical construction.

- C. The entire system of piping and equipment shall be cleaned internally. The Contractor shall open all dirt pockets and strainers, completely blowing down as required and clean strainer screens of all accumulated debris.
- D. All tanks, fixtures, and pumps shall be drained and proven free of sludge and accumulated matter.
- E. All temporary labels, stickers, etc., shall be removed from all fixtures and equipment. (Do not remove permanent name plates, equipment model numbers, ratings, etc.). All HVAC equipment shall have affixed adjacent to the permanent nameplate, the unit identification on an engraved label with permanent adhesive.
- F. Heating and air conditioning equipment, tanks, pumps, etc., shall be thoroughly cleaned and new filters or filter media installed.

#### **1.20 TEST AND DEMONSTRATIONS**

- A. Systems shall be tested and placed in proper working order prior to demonstrating systems to Owner.
- B. Prior to acceptance of the mechanical installation, demonstrate to the Owner or his designated representatives all essential features and functions of all systems installed, and instruct the Owner in the proper operation and maintenance of such systems. The contract shall allow for five (5) working days to perform the demonstrations.
- C. Provide necessary trained personnel to perform the demonstrations and instructions. Provide manufacturer's representatives for systems as required to assist with the demonstrations.
- D. Dates and times for performing the demonstrations shall be coordinated with the Owner.
- D. Upon completion of demonstrations, provide a certificate testifying that demonstrations have been completed. Certificate shall list each system demonstrated, dates demonstrations were performed, names of parties in attendance, and shall bear signatures of contractor and owner.
- E. Training shall include audio/video recording in DVD format turned over to the owner as part of closeout documents.

#### **1.21 PAINTING AND IDENTIFICATION**

- A. Touch-up paint where damaged on equipment furnished with factory applied finish, to match original finish.
- B. Provide engraved, laminated plastic tags for all equipment. Tags shall be attached with permanent adhesive.

#### **1.22 EXCAVATING, TRENCHING, AND BACKFILLING**

- A. Provide excavation necessary for underground water piping, etc., and backfill such trenches and excavations after work has been installed and tested. Care shall be taken in excavating, that walls and footings and adjacent load bearing soils are not disturbed, except where lines must cross under a wall footing. Where a line must pass under footing, the crossing shall be made by the smallest possible trench to accommodate the pipe. Excavation shall be kept

free form water by pumping if necessary. No greater length of trench shall be left open, in advance of pipe and utility laying, than that which is authorized.

- B. Trenches for piping and utilities located inside foundation walls and to point five (5) feet outside of the wall shall be not less than sixteen (16) inches or more than twenty-four (24) inches wider than the outside diameter of the pipe to be laid. The widths of trenches for piping and utilities located more than five (5) feet outside of building foundation walls, other than for sewers, shall be governed by conditions found at the site.
- C. Bottoms of trenches shall be so shaped that when pipe is in place the lower fourth of the circumference for the full length of the barrel will be supported on compacted fill. Bell holes shall be dug so that no part of the weight of the pipe is supported by the bell but shall be no larger than necessary for proper jointing. All sewers and piping required for the structure shall be excavated to at least (6) inches below pipe invert.
- D. Immediately after testing and/or inspection, the trench shall be carefully backfilled with earth free from clods, brick, etc., to a depth one-half the pipe diameter and then firmly puddled and tamped in such a manner as not to disturb the alignment or joints of the pipe. Thereafter, the backfill shall be puddled and tamped every vertical foot.

#### **1.23 CONCRETE WORK**

- A. Provide concrete bases and housekeeping pads for mechanical equipment unless indicated otherwise. Concrete work shall be as specified in the applicable Civil/Site and Structural Sections. Vibration pads, equipment bases, pipe supports and thrust blocks shall be provided by this Contractor.
- B. Provide equipment anchor bolts and coordinate their proper installation and accurate location.

#### **1.24 ACCESS PANELS**

- A. Provide access panels where required and not shown on the drawings for installation by the drywall Contractor. Access panels shall be as specified in the applicable architectural section. All access panel locations which allow access to mechanical equipment shall be approved by the Architect/Engineer.

#### **1.25 SLEEVES**

- A. A. Sleeves passing through non-fire rated walls and partitions shall be Schedule 10 black steel.
- B. Sleeves passing through load bearing walls, concrete beams, foundations, footings, and waterproof floors shall be Schedule 40 galvanized steel pipe or cast iron pipe.
- C. Sleeves passing through non-load bearing walls, concrete beams, foundations, footings, and waterproof floors shall be Schedule 40 PVC or cast iron.
- D. Sleeves for insulated piping shall be of sufficient internal diameter to take pipe and insulation and to allow for free movement of pipe. Waterproof sleeves shall be of sufficient internal diameter to take pipe and waterproofing material.
- E. In finished areas where pipes are exposed, sleeves shall be terminated flush with wall, partitions, and ceilings, and shall extend 1/2" above finished floors. Extend sleeves 1" above finished floors in areas likely to entrap water.

- F. Pipe to wall penetration closures for underground pipe penetrations of walls shall be "Link-Seal" as manufactured by Thunderline Corporation, or equal.

**1.26 ESCUTCHEONS**

- A. Provide chrome plated escutcheons at each sleeved opening into finished and stainless steel to exposed exterior spaces. Escutcheons shall fit around insulation or around pipe when not insulated; outside diameter shall cover sleeve. Where sleeve extends above finished floor, escutcheon shall be high cap type and shall clear sleeve extension. Secure escutcheons or plates to sleeve but not to insulation with set screws or other approved devices.

**1.27 INSULATION PROTECTION**

- A. Where exposed insulated piping extends to floor, provide sheet metal guard around insulation.

**1.28 ANCHORING OF EQUIPMENT**

- A. All equipment located on floor slab, that is not mounted on wheels and is capable of being moved shall be secured to the floor with anchor bolts. A minimum of two bolts are required per each piece of equipment and bolts shall be of sufficient size to prevent equipment from overturning.

**1.29 PROTECTION OF ELECTRICAL EQUIPMENT**

- A. Water piping shall not be installed in electrical rooms or directly above electrical equipment.

**1.30 CONNECTIONS FOR FIXTURES AND EQUIPMENT UNDER ANOTHER SECTION OR BY OWNER**

- A. Rough all equipment requiring connection to systems provided under this Division. Verify requirements and current locations before proceeding with work.
- B. Make all connections to equipment furnished under another Section or by owner as required to obtain complete and working systems.

**1.31 SYSTEM GUARANTEE**

- A. Work required under this Division shall include one-year guarantee. Guarantee by Contractor to Owner to replace for Owner any defective workmanship or material which has been furnished under contract at no cost to the Owner for a period of one year from date of substantial completion. Guarantee shall also include all reasonable adjustments of system required for proper operation during guarantee period. Guarantee shall not include normal preventative maintenance services or filters.
- B. At "Demonstration", one-year guarantee provision by Contractor shall be explained to Owner.
- C. All sealed hermetic refrigeration systems shall be provided with five-year factory warranty from date of substantial completion

**END OF SECTION**

**SECTION 23 05 05  
MECHANICAL DEMOLITION**

**PART 1 - GENERAL**

**1.01 WORK INCLUDED**

- A. Remove: Equipment, piping, insulation, controls, ductwork, etc. as indicated on the drawings.

**1.02 EXISTING CONDITIONS**

- A. Contractor shall visit site prior to bidding; the contractor shall become familiar with the requirements and intent of the drawings.
- B. There will be no allowances made for failure of the contractor to familiarize themselves with the extent of work required under the specifications or drawings.

**1.03 SALVAGED MATERIALS OR EQUIPMENT**

- A. Equipment and materials shall be removed from the jobsite at no additional expense to the owner.
- B. All equipment indicated on the drawings shall be turned over to the owner.
- C. Any material posing a hazard shall be removed from the jobsite immediately.

**PART 2 - EXECUTION**

**2.01 GENERAL**

- A. Contractor shall submit a plan for approval by the Architect for phasing of demolition to minimize utility outages and interference with other trades and occupied portions of the building.
- B. Contractor shall coordinate utility outages with the General Contractor, Owner and Architect by providing three days written notice of times and locations of utility outages and anticipated time of restoration.

**2.02 PROTECTION OF EXISTING TO REMAIN**

- A. Provide tarps, plywood, and any other protectionary devices to protect existing finishes, furniture, appliances, equipment, etc.
- B. Damages to any afore mentioned shall be replaced by this contractor at no cost to the owner.

**2.03 PROHIBITED METHODS**

- A. Jack Hammers shall not be used without the written approval of the Architect. The Architect reserves the right to withdraw approval for the use of jack hammers at any time if their use create excessive noise and/or vibration as deemed by the Architect.
- B. Explosives of any type shall not be used.
- C. Burning shall not be used as a means of demolition and/or disposal. Cutting torches shall not



be considered as burning.

**2.04 DUST CONTROL**

- A. Provide tarps, temporary walls, etc. as required to prevent the spread of dust through the building unnecessarily.

**END OF SECTION**

**SECTION 23 05 32**  
**SUPPORTS AND ANCHORS**

**PART 1 - GENERAL**

**1.01 WORK INCLUDED**

- A. Pipe, duct, and equipment hangers, supports, and associated anchors.
- B. Equipment bases and supports.
- C. Sleeves and seals.
- D. Flashing and sealing equipment and pipe stacks.

**1.02 WORK FURNISHED BUT INSTALLED UNDER OTHER SECTIONS**

- A. Furnish hanger and support inserts sleeves to Section for placement into formwork.

**1.03 SUBMITTALS**

- A. Submit shop drawings and product data for all items listed under this section.
- B. Indicate hanger and support framing and attachment methods.

**PART 2 - PRODUCTS**

**2.01 PIPE HANGERS AND SUPPORTS**

- A. Hangers for Pipe Sizes 1/2 to 4 inches: Carbon steel, adjustable, clevis type with galvanized plating.
- B. Multiple or Trapeze Hangers: Steel channels with welded spacers and hanger rods; cast iron roll and stand for hot pipe sizes 6 inches and over.
- C. Wall Support for Pipe Sizes to 3 Inches: Cast iron hook.
- D. Wall Support for Pipe Sizes 4 Inches and Over: Welded steel bracket and wrought steel clamp; adjustable steel yoke and cast iron roll for hot pipe sizes 6 inches and over.
- E. Vertical Support: Steel riser clamp with galvanized plating.
- F. Floor Support for Pipe Sizes to 4 Inches and All Cold Pipe Sizes: Cast iron adjustable pipe saddle, locknut nipple, floor flange, and concrete pier or steel support anchored to floor.
- G. Un-insulated Copper Pipe Support: Carbon steel ring, adjustable, copper plated.

- H. Shield for Insulated Piping 1 1/4 Inches and Smaller: 18 gage galvanized steel saddle over insulation in 180 degree segments, minimum 12 inches long per pipe support.
- I. Shield for Insulated Water Piping 1 1/2 Inches and Larger: Rigid non-conducting insulation in 180 degree segments, 16 inch minimum length with block thickness the same as insulation thickness and with an inner contour of the supporting pipe. Install with 16 gage galvanized steel saddle per pipe support. See Detail for additional requirements. Wood is not an acceptable blocking material.
- K. Shields for Vertical Copper Pipe Risers: Sheet lead.

## **2.02 HANGER RODS**

- A. Steel Hanger Rods: Galvanized threaded both ends, threaded one end, or continuously threaded.

## **2.03 FLASHING**

- A. Metal Flashing: galvanized steel.
- B. Lead Flashing: 5 lb/sq ft sheet lead for waterproofing; one lb/sq ft sheet lead for soundproofing.
- C. Flexible Flashing: 47 mil thick sheet butyl; compatible with roofing.
- D. Caps: Steel, 20 gage minimum; 16 gage at fire resistant elements.

## **2.04 SLEEVES**

- A. Sleeves for Pipes Through Non-fire Rated Floors: Form with schedule 80 PVC or Schedule 10 steel pipe.
- B. Sleeves for Pipes Through Non-fire Rated Walls, Footings, and Potentially Wet Floors: Form with schedule 10 steel pipe.
- C. Sleeves through beams shall be Schedule 40 steel; only in locations approved by the Structural Engineer.
- D. Sleeves for Round Ductwork: Form with galvanized steel. Size shall include an allowance for the insulation.
- E. Sleeves for Rectangular Ductwork: Formed or framed for the duct penetration including scheduled/specified insulation. See Detail for packing insulation and metal flashing
- F. Flanges shall be 20 gage galvanized steel.
- G. Sleeves for floor or wall penetrations at rated assemblies shall conform to Specifications Section 23 05 60.

## 2.05 FABRICATION

- A. Size sleeves large enough to allow for movement due to expansion and contraction. Provide for continuous insulation wrapping.
- B. Design hangers without disengagement of supported pipe.

## 2.06 FINISH

- A. Prime coat steel hangers and supports at interior spaces. Exterior supports shall be galvanized or primed and painted as directed by Engineer and Architect.
- B. Finish coat in exposed areas and exterior shall be selected by Architect.

## PART 3 - EXECUTION

### 3.01 PIPE HANGERS AND SUPPORTS

- A. Support horizontal piping as follows:

PIPE SUPPORT SCHEDULE					
Pipe Size	Support Spacing				Hanger Rod Diameter
	Sched 40 Black Steel	Copper	PVC	Cast Iron Soil Pipe	
1/2"	-	5'-0"	4'-0"	-	3/8"
3/4"	7'-0"	5'-0"	4'-0"	-	3/8"
1"	7'-0"	6'-0"	4'-0"	-	3/8"
1-1/4"	7'-0"	7'-0"	4'-0"	-	3/8"
1-1/2"	9'-0"	8'-0"	4'-0"	-	3/8"
2"	10'-0"	8'-0"	4'-0"	5'-0"	3/8"
2-1/2"	10'-0"	9'-0"	4'-0"	5'-0"	1/2"
3"	10'-0"	10'-0"	4'-0"	5'-0"	1/2"
4"	10'-0"	10'-0"	4'-0"	5'-0"	5/8"
6"	10'-0"	10'-0"	4'-0"	5'-0"	3/4"

Note: Rods may be reduced one size for double rod hangers, with 3/8" being the

- B. Install hangers to provide minimum 1/2 inch space between finished covering and adjacent work.
- C. Place a hanger within 12 inches of each horizontal elbow.
- D. Use hangers with 1-1/2 inch minimum vertical adjustment.
- E. Support horizontal cast iron pipe adjacent to each hub, with 5 feet maximum spacing between hangers.

- F. Support vertical piping at every floor. Support vertical cast iron pipe at each floor at hub.
- G. Where several pipes can be installed in parallel and at same elevation, provide multiple or trapeze hangers.
- H. Support riser piping independently of connected horizontal piping.
- I. All hangers, hanger rods, supports, etc. shall be double nutted.

### **3.02 EQUIPMENT BASES AND SUPPORTS**

- A. Provide equipment bases of concrete type.
- B. Provide templates, anchor bolts, and accessories for mounting and anchoring equipment.
- C. Construct support of steel members. Brace and fasten with flanges bolted to structure.
- D. Provide rigid anchors for pipes after vibration isolation components are installed.

### **3.03 FLASHING**

- A. Provide flexible flashing and metal counterflashing where piping and ductwork penetrate weather or waterproofed walls, floors, and roofs.
- B. Flash vent and soil pipes projecting 3 inches minimum above finished roof surface with lead worked one inch minimum into hub, 8 inches minimum clear on sides with 24 x 24 inches sheet size. For pipes through outside walls, turn flanges back into wall and caulk, metal counterflash and seal.
- C. Flash floor drains in floors with topping over finished areas with lead, 10 inches clear on sides with minimum 36 x 36 inch sheet size. Fasten flashing to drain clamp device.
- D. Seal floor, and mop sink drains watertight to adjacent materials.
- E. Provide acoustical lead flashing around ducts and pipes penetrating equipment rooms, installed in accordance with manufacturer's instructions for sound control.

### **3.04 SLEEVES**

- A. In finished areas where pipes are exposed, sleeves shall be terminated flush with wall, partitions, and ceilings, and shall extend 1/2" above finished floors. Extend sleeves 1" above finished floors in areas likely to entrap water. Caulk sleeves full depth and provide floor plate.
- B. Install chrome plated steel escutcheons at finished surfaces.
- C. Install stainless steel escutcheons at finished exterior surfaces.

**END OF SECTION**

## **SECTION 23 05 53**

### **MECHANICAL IDENTIFICATION**

#### **PART 1 GENERAL**

##### **1.01 WORK INCLUDED**

- A. Identification of mechanical piping, ductwork and equipment.
- B. Painting of exposed mechanical piping.
- C. Painting of accessible, concealed mechanical piping.

##### **1.02 SUBMITTALS**

- A. Submit manufacturer's data, application instructions, surface preparation techniques and color samples for all paint products.
- B. Submit samples and manufacturer's installation instructions for all mechanical identification products.
- C. Submit valve chart and schedule including valve tag number, size, function, location and valve manufacturer's name and model number.
- D. Submit manufacturer's installation instructions.

#### **PART 2 PRODUCTS**

##### **2.01 MATERIALS**

- A. Plastic Nameplates (Equipment): Laminated three-layer plastic with engraved white letters on black background color.
- B. Metal Tags (Valves): Brass with 1/2 inch high black filled numbers and/or letters, minimum 1-1/2 inch diameter, brass link chain and hooks.
- C. Ceiling Markers (lay-in ceilings): Markserv MS900 self adhesive vinyl, 0.0032" thick PVC with permanent pressure-sensitive acrylic adhesive for use of identifying valve locations above acoustical tile ceilings 7/8" diameter, 7 colors available - yellow, green, blue, orange, black, red and white. Fire protection water color to be orange with white number. Markers shall be numbered consecutively with standard 3/16" characters. Markers shall be installed on metal grid of lay-in ceilings and located within 24" of valve above ceiling. Markers shall be Markserv, Seton or equal.
- D. Paint: Numbers for paint colors are referenced to Sherwin-Williams brand. Equivalent products by Glidden or Pratt and Lambert are acceptable.
- E. Stencil Paint: Semi-gloss enamel, when specifically allowed. Example gas piping.
- F. Interior of building pipe markers and above ceiling: Seton Economy Self-Adhesive Pipe Markers: Color coded background, color of legend letter size and length of letter size and length of color field shall conform completely with the latest edition of ANSI A13.1. Markers shall indicate direction of flow. Legends shall be alternately reversed and repeated for viewing from any angle.

Markers shall be by Seton, Kolbi, Brady, or approved equal or approved equal.

- G. Exterior & Limited Interior Pipe Markers Snap/Strap-Around: Outdoor grade acrylic plastic with UV inhibitors. Color coded background, color of legend letter size and length of letter size and length of color field shall conform completely with the latest edition of ANSI A13.1. markers shall indicate direction of flow. Legends shall be alternately reversed and repeated for viewing from any angle. Markers shall be factory formed for the installed diameter. Markers less than 6 inch diameter shall snap-on. Markers 6 inch diameter and larger shall be secured with stainless steel spring fasteners provided by the marker manufacturer. Markers shall be Set Mark pipe markers by Seton, Kolbi, Brady or approved equal.

### PART 3 EXECUTION

#### 3.01 GENERAL

- A. Degrease and clean surfaces to receive adhesive for identification materials.
- B. Prepare surfaces in accordance with Section 099100 for painting.
- C. Plastic nameplates shall be installed with corrosion resistant mechanical fasteners.
- D. Metal tags shall be installed with corrosion resistant brass chain.
- E. Engraved metal markers should be identified on as-built drawings.
- F. Stenciling shall produce neat, high contrast markings. Sizes of markings shall be per the following schedule:

Outside Diameter of Insulation or Pipe	Length of Color Field	Size of Markings
3/4" - 1-1/4"	8"	1/2"
1-1/2" - 2"	8"	3/4"
2-1/2" - 6"	12"	1-1/4"
8" - 10"	24"	2-1/2"
Over 10"	32"	3-1/2"
Ductwork and Equipment	--	2-1/2"

#### 3.02 PIPING

- A. Piping shall be identified at maximum 20 feet on center in areas without ceilings and 10' on center in areas with ceilings, at each side of each wall penetration, at each valve and at each connection to equipment. Piping identification shall include type of service and direction of flow.
- B. Exposed mechanical piping shall be identified with Economy Self-Adhesive Pipe Markers and following color schedule below: NOTE: All piping in areas exposed to students or visitors (classrooms and corridors) shall be Snap/Strap-Around per 2.1-G above.

<u>Type of Service</u>	<u>Markings(color)</u>	<u>Piping Color</u>
Chilled Water Supply	C.W.S.(white)	Medium Green (F65G40)
Chilled Water Return	C.W.R.(white)	Medium Green (F65G40)
Heat Pump Water Supply	H.P.W.S.(white)	Medium Green



Heat Pump Water Return	H.P.W.R.(white)	Medium Green
Heating Water Supply	H.W.S.(black)	Medium Yellow
Heating Water Return	H.W.R.(black)	Medium Yellow
Hot/Chilled Water Supply	H.C.S.(white)	Bright Blue
Hot/Chilled Water Return	H.C.R.(white)	Bright Blue
Hydronic Makeup Water	H.M.W.(white)	Medium Green
Compressed Air, 120 psig	A-120(Black)	Yellow
Hi Pressure Steam	HPS (Black)	Yellow
Low Pressure Steam	LPS (Black)	Yellow
Med. Pressure Steam	MPS (Black)	Yellow
Condensate Return	CR (Black)	Yellow
Hi Pressure Condensate	HPC (Black)	Yellow
Low Pressure Condensate	LPC (Black)	Yellow
Refrigerant Lines	Freon (White)	Green
Condenser Water Supply	Cond. W.S. (White)	Green
Condenser Water Return	Cond. W.R. (White)	Green
Natural Gas	Natural Gas (Black)	Yellow

Note: Piping exposed in finished rooms shall be primed and painted to match room finish or as per color selection by Architect.

- C. Refrigerant lines shall be labeled using pipe markers.

### 3.03 VALVES

- A. Valves in main and branch piping shall be identified with metal tags chained to the valve.
- B. Provide valve chart and schedule in aluminum frame with clear plastic shield. Install at location as directed.

### 3.04 DUCTWORK

- A. Ductwork shall be identified with stenciled painting. Identify as to air handling unit number, and area served. Locate identification at air handling unit, at each side of penetration of structure or enclosure, and at each obstruction.

### 3.05 EQUIPMENT

- A. Large equipment such as air handling units, chillers, boilers, cooling towers, base mounted pumps, fans, etc., shall be identified with plastic laminated name plates.

- B. Small equipment such as in-line pumps shall be identified with metal tags.
- C. Starters for mechanical equipment shall be labeled with the corresponding equipment designation using plastic nameplates.
- D. Control panels, gauges, instruments and major control components not located at control panels shall be identified with plastic nameplates.

**END OF SECTION**

## **SECTION 23 05 60**

### **MECHANICAL THROUGH PENETRATION FIRE STOPPING**

#### **PART 1 GENERAL**

##### **1.01 WORK INCLUDED**

- A. Provide fire stopping for ALL through penetrations. Examples include but are not limited to:
  - 1. Hydronic piping
  - 2. Refrigerant piping
  - 3. Conduit for wiring and controls
  - 4. Ductwork, except where not required to meet UL listing due to fire damper.

##### **1.02 REFERENCES**

- A. Underwriters Laboratories (UL)
- B. American Society for Testing and Materials (ASTM)

##### **1.03 CONTRACTOR REQUIREMENTS**

- A. This work shall be performed by a contractor trained in the installation or application of systems similar in complexity to those required for this project. The contractor shall have at least 2 years experience with through penetration fire stopping systems and shall have completed a least 5 comparable scale projects using these systems.

##### **1.04 SUBMITTALS**

- A. Product data including the following:
  - 1. Manufacturers specifications and technical data
  - 2. Detailed specification of construction and fabrication installation instructions
- B. Shop drawings
  - 1. For each standard application of penetration item and surface being penetrated provide a manufacturers UL approved system cut sheet identifying the UL system number, UL classified devices or materials to be used, other materials to be used, anchorages, sleeves, annular space requirements and sizes, dimensions and locations of all items.
  - 2. For each non-standard application, provide a manufacturer's qualified engineering judgment and drawing. The drawing shall indicate those items specified in "1.1A"

above.

3. All UL approved systems shall be selected based on their "F" rating. All systems shall provide the same ratings as the rating of the floor or wall being penetrated, as shown on the plans.

C. Qualifications

1. Provide list of past projects indicating past experience.
2. Provide statement from manufacturer that installer has to be trained in the proper method of installing fire stop systems.

D. Guarantee

1. Submit copies of written guarantee agreeing to repair or replace joint sealers which fail in joint adhesion, co-adhesion, abrasion resistance, weather resistance, extrusion resistance, migration resistance, stain resistance, or general durability or appear to deteriorate in any other manner not clearly specified by submitted manufacturer's data as an inherent quality of the material for the exposure indicated. The guarantee period shall be one year from date of substantial completion.

**1.05 STORAGE**

- A. Coordinate delivery with scheduled installation date, comply with manufacturers maximum storage requirements. Store materials in a clean, dry, ventilated location. Protect from soiling, abuse, moisture and freezing.

**1.06 PROJECT CONDITIONS**

- A. Fire ratings of walls are indicated on the plans. Ratings of the floors are assumed to be two (2) hours unless otherwise indicated on the Architectural Plans.
- B. Contractor shall coordinate with the other trades for any penetrating items (pipe, conduit, etc.) that have to be routed differently than shown on the plans. Contractor shall provide fire stopping for all rerouted items whether different UL approved systems or additional materials are required.

**PART 2 PRODUCTS**

**2.01 THROUGH PENETRATION FIRE STOPPING**

- A. Acceptable manufacturers and products shall be those listed in the UL fire resistance directory for the UL system involved.
- B. All systems and devices shall be asbestos free.
- C. Systems or devices listed in the UL. Fire resistance directory under categories XHCR and XHEZ may be used, providing that it conforms to the construction type, penetration type, annular space requirements and fire rating involved in each separate instance and that the system be symmetrical for wall applications.
- D. Fill, void or cavity materials shall be as classified under category XHHW in the UL fire

resistance directory.

- E. Forming materials shall be as classified under category XHKU in the UL fire resistance directory.
- F. All fire-stopping products shall be from a single manufacturer.

### **PART 3 EXECUTION**

#### **3.01 GENERAL**

- A. Examine areas and conditions under which work is to be performed and identify conditions detrimental to proper or timely completion.
- B. Verify barrier penetrations are properly sized and in suitable condition for application of materials.
- C. Do not proceed until unsatisfactory conditions have been corrected.
- D. Clean surfaces to be in contact with penetration seal materials, of dirt, grease, oil, loose materials, rust, or other substances that may affect proper fitting, adhesion, or the required fire resistance.

#### **3.02 INSTALLATION**

- A. Install penetration seal materials in accordance with printed instructions of the U.L. Fire Resistance Directory and in accordance with manufacturer's instruction.
- B. Where floor openings without penetrating items are more than four inches in width and subject to traffic or loading, install fire stopping materials capable of supporting same loading as floor.
- C. Protect materials from damage on surfaces subject to traffic.
- D. Place fire stopping in annular space around fire dampers before installation of damper's anchoring flanges, which are installed in accordance with fire damper manufacturers recommendations.
- E. Where large openings are created in walls or floors to permit installation of pipes, ducts, cable tray, bus duct or other items, close unused portions of opening with fire stopping material tested for the application. See U.L. Fire Resistance Directory and Section 2.1 of this document.
- F. Where rated walls are constructed with horizontally continuous air space, double width masonry, or double stud frame construction, provide vertical, 12 inch wide fiber dams for full thickness and height of air cavity at maximum 15 foot intervals. Coordinate with Architectural drawings.

#### **3.03 ADJUSTING AND CLEANING**

- A. Clean up spills of liquid components.
- B. Neatly cut and trim materials as required.

- C. Remove equipment, materials and debris, leaving area in undamaged, clean condition.

**3.04 FIELD QUALITY CONTROL**

- A. Examine penetration sealed areas to ensure proper installation before concealing or enclosing areas.
- B. Keep areas of work accessible until inspection by applicable code authorities.
- C. Perform under this section patching and repairing of fire stopping caused by cutting or penetration by other trades.

**END OF SECTION**

## SECTION 23 07 30

### INSULATION FOR HOT WATER HYDRONIC SYSTEM

#### PART 1 GENERAL

##### 1.01 WORK INCLUDED:

- A. Work of this section shall include providing the thermal insulation for mechanical systems and shall include the following principal items:
  - 1. Hot Water System Insulation
  - 2. Makeup cold water assemblies and piping to system shall be insulated as specified in Section 23 07 32, 3.02, B, same as for interior domestic cold water.
- B. This work shall be performed by a competent insulation contractor whose primary business is the installation of insulation systems and who has been in this business for a minimum of five years.

##### 1.02 SUBMITTALS

- A. Provide submittals consisting of product literature for each insulation type, finish type and equipment served. Provide submittals on method of installation for each type of insulation used.
- B. Product samples and installation samples are required and shall be provided at the discretion of the engineer. Samples may include but are not limited to, 90° Ells, 45° Ells, valves and sections of pipe.

#### PART 2 PRODUCTS

##### 2.01 THERMAL INSULATION

- A. All insulating systems shall be tested on a composite basis in accordance with NFPA and UL 723 and shall have a maximum flame spread rating of 25 and a maximum smoke developed rating of 50 under ASTM E-84.
- B. Interior piping Rigid Fiberglass - .23K Factor, 3# density, minimum R Factor 4.3 suitable for 850°F. Equal to Owens Corning - Fiberglass ASJ/SSL-11.

NOMINAL PIPE SIZES	INTERIOR	EXTERIOR ABOVE GROUND	EXTERIOR BELOW GRADE
1/2" – 2"	1"	1 1/2"	1"
2 1/2" - 8"	1 1/2"	2"	1 1/2"
8" And Above	2"	2 1/2"	2"

- C. Interior fittings 1/2" and 3/4" may use job built mitered fittings of similar materials as piping. 1" and up will use factory precision pre-cut, preformed and routed to fit predetermined size.

- D. Above ground exterior piping shall be equal to Foamglass - .33K factor suitable for 900° F, 8.5# Density per square foot. Equal to Pittsburgh Corning-Strata Fab System with ASJ jacket.
- E. Fittings for above ground exterior piping shall be machine formed, routed and fitted for specific size fitting and of same material as in D.
- F. Below ground exterior piping shall be of same material as in D. without the ASJ Jacketing.
- G. Below ground exterior fittings shall be machine formed, routed and fitted for specific size fitting and of same material as in E.

## **2.02 INSULATION FINISH MATERIALS**

- A. White all service jacket (ASJ).
- B. Glass fabric equal to Foster Mast-A-Fab.
- C. Mastic equal to Childers CP-30.
- D. Corrugated aluminum, 0.016 inches thickness with corrugations no greater than 3/16" deep, equal to Pabco.
- E. Aluminum fitting covers, precision formed, smooth and mar-free finish, 0.024 inches thickness. Equal to Pabco.
- F. Roofing felt 15 lbs.
- G. Black asphaltic cutback mastic for underground or outdoor use equal to Foster C.I. Mastic 60-25.

## **PART 3 EXECUTION**

### **3.01 WORKMANSHIP**

- A. All materials shall be applied by Workmen skilled in this trade. Unsightly work shall be cause for rejection.
- B. Mechanical fasteners shall be used whenever possible to assure permanent construction.
- C. Materials shall be applied only after systems have been tested and all surfaces are clean and dry.
- D. Cellular glass block supports or other suitable non-compressible insulation material equal in thickness to the insulation and three times the pipe diameter in length shall be installed at hangers to eliminate through-metal conductance. Provide 16 GA, 180 degree, galvanized sheet metal saddles same length as block supports.
- E. Insulation that becomes wet for any reason shall be removed, replaced and resealed at the expense of this Contractor.
- F. Piping systems requiring testing to be witnessed by the Engineer shall not be insulated until such systems have been tested and approved.
- G. Do not insulate batch type chemical feeders, valve handles, or any moving parts.



### 3.02 APPLICATIONS

#### A. Rigid Fiberglass Insulation

##### 1. Piping

All insulation shall be butted together and securely stapled in place with outward clinching staples on 3" centers. Factory provided laps of 4" wide ASJ Tape of the same type as jacket on insulation shall be used on butt joints. All laps and penetrations shall be sealed with a vapor barrier mastic finish.

##### 2. Fittings

Fitting insulation shall be covered with two coats of vapor barrier mastic with an intermediate layer of glass fabric.

##### 3. Aluminum Jacket

All interior exposed pipe and fittings below 7'0" A.F.F. shall also be wrapped with 0.016 corrugated aluminum.

#### B. Foamglass – A

##### 1. Piping Above Grade

All insulation shall be applied over a clean dry surface. Factory provided laps of 4" wide ASJ tape of same type as jacket on insulation shall be used on butt joints. All laps and penetrations shall be sealed with a vapor barrier mastic finish.

##### 2. Piping Below Grade

Underground piping insulation shall be applied over a clean dry surface. Provide 22 ga. galvanized wire at 12" O.C.. Cover insulation with two layers of 15 lb. asphalt impregnated felt and stagger joints at midpoint. Apply sealant at joints, laps and seams. Secure felt with wire at 12" O.C. with 22 ga. galvanized wire. Apply tack coat over felt at not less than 4 gal per 100 square feet. Embed cloth membrane into wet tack coat. Smooth membrane to avoid wrinkles and overlap seams at least 2". Apply a finish coat at 8 gallons per 100 square feet making certain that membrane is fully covered. Allow 8 hours of drying time before any piping is covered.

##### 3. Piping above grade

All above grade piping shall be covered with aluminum. Aluminum shall be applied to a clean dry surface. Overlap butt joints 4" and apply 1/2" wide bands of aluminum on 12" O.C. and at each end of fittings. On exterior piping the longitudinal seam shall be located at the bottom center of piping and turned 1/4" down for a drip edge. All joints on exterior piping shall be made water tight with suitable silicone caulking. Caulking is to be applied to joints prior to bands being installed.

##### 4. Fittings

Fitting insulation shall be covered with two coats of vapor barrier mastic with an intermediate layer of glass fabric.

**3.03 MISCELLANEOUS**

- A. This contractor will contact the engineer at the start of all phases of work as follows:
  - 1. During installation of underground installation of insulation.
  - 2. During exterior above ground installation.
  - 3. During interior insulation installation.
- B. The engineer will ascertain the continuation of work subject to the requirements aforementioned.

**END OF SECTION**

## **SECTION 23 11 30**

### **GAS PIPING SYSTEM**

#### **PART 1 - GENERAL**

##### **1.01 WORK INCLUDED**

- A. The following described work, materials and equipment shall be furnished and installed as shown on the Drawings and as herein specified.
  - 1. Gas service, specialties and piping to all equipment.

##### **1.02 REFERENCES**

- A. All installation and fabrication shall be in accordance with applicable Local Gas Codes.

##### **1.03 SUBMITTALS**

- A. Submit catalog data and shop drawings for all materials listed under this section and per basic mechanical requirements.
- B. Materials, valves, hangers or equipment installed without review or after rejection shall be replaced by this contractor with acceptable items at the Engineer's direction.
- C. All materials, equipment and appliances shall be new, without defect, first line quality unless specifically noted or specified otherwise.
- D. The supplier, by submitting, certifies the materials and equipment to be satisfactory for the application involved.
- E. Contractor further agrees that if deviations, discrepancies or conflicts between submittals and specifications are discovered either prior to or after submittals are processed by the Engineer, the design drawings and specifications shall control and be followed.

#### **PART 2 - PRODUCTS**

##### **2.01 GAS PIPING SYSTEM**

- A. Above Grade:
  - 1. Steel pipe: ASTM A53, Schedule 40 black. Fittings: ANSI/ASME B16.3, malleable iron, or ASTM A234, forged steel welding type. Joints: Screwed for pipe 2" and under; ANSI/AWS D1.1, welded, for pipe over 2".
- B. Below Grade:
  - 1. MDPE pipe conforming to ASTM D 2513. Pipe shall be marked "GAS" and "ASTM D 2513". PE Fittings: ASTM D 2683, socket-fusion type or ASTM D 3261, butt-fusion type with dimensions matching PE pipe. PE transition fittings aboveground portion:

Factory-fabricated fittings with PE pipe complying with ASTM D 2513, SDR 11 and steel pipe complying with ASTM A 53/A 53M, black steel, Schedule 40, Type E or S, Grade B. Anodeless Service-Line Risers: Factory fabricated and leak tested. Casing: Steel pipe complying with ASTM A 53/A 53M, Schedule 40, black steel, Type E or S, Grade B, with corrosion-protective coating covering. Outlet shall be threaded or flanged or suitable for welded connection. Pipe shall be manufactured with a UV stabilizer suitable for unprotected outdoor storage for at least four (4) years. All joints, connections and work shall be made with fusion procedures meeting the pipe manufacturer's and local governing authority's requirements. Verify pipe preference of local utility. Provide tracer wire connection. Provide yellow indicator tape with an insulated copper tracer wire the continuous pipe length. The wire shall terminate above ground at each end of nonmetallic piping. The tracer wire shall not be less than 18 AWG and the insulation type shall be suitable for direct burial. Provide casing spacers when MDPE piping is used.

2. Steel Pipe: Schedule 40, black, per ASTM A-53 TYPE F may be substituted for outside underground pending approval by the Engineer. Piping shall be factory coated with a fusion bonded epoxy coating equal to 3M Scotchkote 6233. Fittings: Malleable iron per ASTM A-105 or forged steel welding type per ASTM A 234. Joints: Welded per ANSI/AWS D1.1 for all pipe sizes. Fittings and joints shall be covered with multiple layers of black plastic tape to provide protection equal to factory applied coatings. Tape shall be Kendall Company "Polyken #900" or equal by Tapecoat, 3M or Steelcoat.
- C. High Pressure System (containing 1 psig or greater) pipe to meet specifications listed in 2.01 A and B (1) above. Fittings: Forged steel welding type per ASTM A234. Joints: ALL sizes shall be welded.
- D. Flexible Connectors: Flexible connectors for connecting gas utilizing equipment to building gas piping shall conform to ANSI Z21.45. Flexible connectors for movable food service equipment shall conform to ANSI Z21.69.
- E. All welded joints on above grade piping 2" and larger shall be butt welds. 1-1/2" piping and smaller may be socket welds. All below grade welds shall be butt welds.
- F. Pipe identification markers shall be as specified in 23 05 53.

## **2.02 GAS SPECIALTIES**

### **A. Pressure Regulators**

1. Pressure regulators for individual service shall be of iron or steel body, shall be suitable in all respects for the indicated conditions and shall be adjustable for changing the downstream pressure. The regulator shall be adjustable with automatic loading, and shall have automatic pressure relief. The regulator shall be adjusted for an outlet pressure as scheduled on plans. The outlet pressure shall not vary more than 1/2 inch of the water column from the setting point at the connected-load capacity for the regulator. The pressure relief shall be diaphragm-operated, spring-loaded type with vent for relief of excess pressure on the low-pressure side of each main service regulator. Regulators shall be Equimeter, American, and Fisher or approved equal.

3. Pressure regulators shall be configured where the vent is in the vertical down position.
4. Pressure regulators installed inside mechanical rooms, boiler rooms or in any general area inside the building exceeding 7" WG pressure shall have the vents routed to atmosphere. Piping used shall be sized for the vent connection and conform to the listing of above grade gas piping.
5. Increases installed on the low pressure side of the pressure regulator shall be installed immediately after the regulator, and as detailed on the drawings.
6. Testing procedures shall not include testing thru or to a gas pressure regulator. The Mechanical Contractor shall install a short "spool piece" of piping with the same lay length in place of the regulator and removable with a union between the two isolating valves. The regulator shall be installed after the test is approved. The regulator shall be pressure tested with soap bubbles or approved electronic leak detector after installation.

B. Valves For Pressure Systems 2 psig Or Less:

1. Brass ball valves 1/4" through 2" shall be forged brass two piece body, full port, blow-out proof brass stem, forged brass chrome plated vented ball and PTFE ball seats. Valves shall be 150 WSP/ 600 WOG, 600 PSI non-shock, ASME B16.33 rated to 125 PSI and certified to CSA, UL & FM. Valves shall be Kitz code #58 (AKSZA) with threaded fittings.
2. Bronze ball valves 2-1/2" through 4" shall be cast bronze two piece body, full port, blow-out proof brass stem, forged/cast brass chrome plated vented ball and PTFE ball seats. Valves shall be 150 WSP/ 400 WOG, 400 PSI non-shock, ASME B16.33 rated to 125 PSI and certified to CSA, UL & FM. Valves shall be Kitz code #58 (AKSZA) with threaded fittings.
3. Cast iron ball valves 2" though 10" shall be cast iron body, full port, blow-out proof stainless steel stem, stainless steel vented ball and PTFE gasket and ball seats. Valves shall be Class 125 WSP/ 200 WOG, 200 PSI non-shock and conforming to MSS SP-72, ASME B16.1 & ASME B16.10. Valves shall be Kitz code #90 (FCTB) with flat face flanged fittings.

Note: Valves installed in publically accessible areas shall be cast iron or plug valves, wrench operated only.

C. Valves For Pressure Systems Greater Than 2 psig:

1. Lubricated Plug Valves
  - a. Threaded valves 1/2" through 2" shall be ANSI Class 125 cast iron body, steel check valve, disk and spring, full port, cylindrical plug, wrench operated, 200 lb. WOG, 150 lb. SWP. Equal to Homestead 601. Valves shall be CSA & FM Approved. Equal valve by Mueller will be considered.
  - b. Flanged valves 2-1.2" through 4" shall be ANSI Class 125 cast iron body, steel check valve, disk and spring, full port, cylindrical plug, wrench operated, 200 lb. WOG, 150 lb. SWP. Equal to Homestead 602. Valves

shall be CSA & FM Approved.

2. Cast iron ball valves 2" through 10" shall be cast iron body, full port, blow-out proof stainless steel stem, stainless steel vented ball and PTFE gasket and ball seats. Valves shall be Class 125 WSP/ 200 WOG, 200 PSI non-shock and conforming to MSS SP-72, ASME B16.1 & ASME B16.10. Valves shall be Kitz code #90 (FCTB) with flat face flanged fittings.

Note: Valves installed in publically accessible areas shall be cast iron or plug valves, wrench operated only

### **PART 3 - EXECUTION**

#### **3.01 GENERAL**

- A. Work shall be roughed-in so that all exposed piping will be straight and true without bends or off-sets.

#### **3.02 GAS PIPING SYSTEM**

- A. Provide a complete system of gas piping including interior and exterior work as indicated on the drawings.
- B. Pressure testing procedure:
  1. High pressure piping (1 psig and greater): Gas pipe shall be tested with 50 psig nitrogen pressure for 24 hours and measured with a pressure measuring device designed and calibrated to read, record and indicate a pressure loss due to pipe leakage during the pressure test period. Any reduction of test pressure as indicated by the device shall be deemed to indicate the presence of a leak. Any leaks shall be located by means of a spray liquid & soap solution, or an equivalent nonflammable solution. Since some leak solutions, including soap and water may cause corrosion or stress cracking, the piping shall be rinsed with water after testing unless it has been determined the leak solution is non-corrosive. Any leaks shall be repaired by this contractor and the system re-tested in the prescribed manner. The 24 hour chart readout shall be submitted to the Engineer with a verification of the project name, time, date and witness of the testing procedures.
  2. Low pressure piping (less than 1 psig): Gas pipe shall be tested with 10 psig nitrogen pressure for 24 hours and measured with a pressure measuring device designed and calibrated to read, record and indicate a pressure loss due to pipe leakage during the pressure test period. Any reduction of test pressure as indicated by the device shall be deemed to indicate the presence of a leak. Any leaks shall be located by means of a spray liquid & soap solution, or an equivalent nonflammable solution. Since some leak solutions, including soap and water may cause corrosion or stress cracking, the piping shall be rinsed with water after testing unless it has been determined the leak solution is non-corrosive. Any leaks shall be repaired by this contractor and the system re-tested in the prescribed manner. The 24 hour chart readout shall be submitted to the Engineer with a verification of the project name, time, date and witness of the testing procedures.

- C. This Contractor shall make final connections to each piece of equipment furnished by him or by others unless noted otherwise. Provide a shut-off valve, union and 8" dirt leg at each individual equipment connection. Any reduction in gas pipe size for equipment connection shall be made within 6" of the factory connection. Regulators shall be installed at each piece of equipment or at branch intervals where required and indicated on the drawings.
- D. Coordinate with the Food Service drawings where applicable for the location of the solenoid gas valve provided by that service for kitchen equipment. When the gas valve is shipped loose from the UDS system, it shall be the responsibility of the Mechanical Contractor to install the gas valve in the gas pipe prior to connection to the UDS. See Solenoid Gas Valve in Gas Specialties for the installation requirements with valves and unions.
- E. Gas piping shall not be installed in any inaccessible concealed and unventilated space.
- F. Install piping with a minimum 48" clearance from other buried metallic piping or equipment.
- G. Unless other specified herein, final connections shall be made with rigid metallic pipe and fittings. Final connection to kitchen ranges, (and other equipment where moving for cleaning purposes is required) shall be made using flexible connectors not less than 40" long and not more than 72" long and shall comply with ANSI Z21.69. In addition to cautions listed in instruction required by ANSI Standards for flexible connectors, insure that flexible connectors do not pass through equipment cabinets. Provide accessible gas shutoff valve and coupling for each gas equipment connection.
- H. Exterior piping above grade and concealed from normal view shall be coated with a rust inhibiting primer and two coats of exterior grade yellow paint. Exposed gas piping shall be primed as previously listed and painted with a color similar to nearest structure or as directed by the Architect.
- I. Whenever gas pipe transitions from below grade to above grade, the transition shall be made with an isolating union to electrically isolate the gas distribution systems. A DC voltage reading shall be made to test the effectiveness of the isolating unions. A minimum reading of 0.2 volts (measured across the union) shall be required. Repair or replace unions until this voltage can be obtained.
- J. Provide 17 pound magnesium anodes for steel piping below grade. Locate as indicated in an augured hole five feet from the pipe. The electrode shall be brazed or thermite welded to the pipe and then coated with approved mastic and tape.
- K. The condition of the pipe coating, the effectiveness of the isolation and other tests shall be approved by the Engineer.
- L. All underground piping shall be buried a minimum of 24 inches, have a yellow pipe marker with copper tracer wire located 6 inches below final finish grade, and shall be laid in a minimum of 4 inches of sand with sand extending to 6 inches above pipe. Provide PVC sleeves below all concrete sidewalks, roadways or concrete pads. Sleeve shall be a minimum of 2 pipe sizes larger than gas line. Sleeves shall be sealed and vented. Vents shall be routed as detailed and shown on the drawings.

- END OF SECTION -

## **SECTION 23 21 10**

### **REV - HYDRONIC PIPING**

#### **PART 1 GENERAL**

##### **1.01 WORK INCLUDED**

- A. Provide hydronic piping systems complete with all accessories as specified herein and/or as indicated on the Drawings.
- B. Provide complete cleaning of all hydronic systems as specified herein and/or as indicated on the Drawings.
- C. Pressure test all systems as specified herein.

##### **1.02 REFERENCES**

American National Standards Institute (ANSI)

American Society of Mechanical Engineers (ASME)

American Society of Testing and Materials (ASTM)

Hydronic Institute (HI)

##### **1.03 SUBMITTALS**

- A. Submit manufacturer's catalog data for all of the following materials and equipment:
  - 1. Automatic Air Vents
  - 2. Manual Air Vents
  - 3. Multipurpose Valves
  - 4. Gauge Cocks
  - 5. Pressure Gauges
  - 6. Thermometers
  - 7. Pressure and Temperature Test Plugs
  - 8. Pressure and Temperature Test Kits
  - 9. Air Separators
  - 10. Expansion Tanks
  - 11. Suction Diffusers
  - 12. Sight Flow Indicators
  - 13. Flexible Connections
  - 14. Strainers
- B. Submit a list of pipe and fitting materials for each hydronic piping system.

#### **PART 2 PRODUCTS**

##### **2.01 PIPING**

- A. General: The Contractor shall select one and only one of the following specified combinations of piping, fittings and joints from each category below for each service.



System Service	Above/Below Grade/Slab	Size	Piping/Fittings/Joints
Recirculating Hydronic Water	Above Grade/Slab	>1-1/2"	a
Recirculating Hydronic Water	Above Grade/Slab	≤1-1/2"	d or e
Makeup Water	Above Grade/Slab	All	e
Chem. Trmt. Water	All	All	e
Recirculating Hydronic Water	Below Slab	>1-1/2"	c
Final Coil connections Hydronic Water	Above Grade/Slab	>1-1/2"	b
Final coil connections Hydronic Water	Above Grade/Slab	≤1-1/2"	d or e

- NOTES: 1. Recirculating hydronic water shall include chilled water, heating water and condenser water piping systems with or without glycol added.  
2. Contractor shall provide Brass adapter coupling at copper to steel transition. Dielectric unions with rubber O-ring will not be acceptable.

#### Piping/Fitting/Joint Description

- a. Pipe: Schedule 40 black steel per ASTM A-53. Fittings: Forged steel welding type per ASTM A-234. Joints: Welded per ASME B31.9.
- b. Pipe: Type L hard drawn copper per ASTM B-88. Fittings: Wrought copper or cast brass. Terminations shall be flanged. Joints: Soldered with lead-free tin-silver solder.
- c. Pipe: Pre-insulated schedule 40 steel carrier pipe, HDPE outer casing and foamed in place closed-cell polyurethane foam insulation. Fittings: Factory prefabricated. Joints: Field welded and insulated per manufacturer's recommendations. Equal to Perma-Pipe, Energy Task Force, Insul-Tek or Insul-Pipe. See spec 232118.
- d. Pipe: Schedule 40 black steel per ASTM A-53. Fittings: 150 pound malleable iron per ANSI B16.3. Joints: Threaded per ANSI B2.1.
- e. Pipe: Type L hard drawn copper per ASTM B-88. Fittings: Wrought copper or cast brass. Joints: Soldered with lead free, tin silver solder.

#### NOTES:

1. Copper press fittings on above grade copper piping at the unit connections will be allowed. System shall be Rigid Tool Company "Pro-Press" system, factory copper fittings with EPDM O rings secured with factory approved crimping tools, jaws and crimp rings.

## 2.02 HYDRONIC SPECIALTIES

- A. All of the following specified items may not be required for this project.
- B. Automatic Air Vents, Float Type: Brass or stainless steel body, copper float and stainless steel valve and valve seat. Suitable for system operating temperature and pressure. Acceptable manufacturers: Bell & Gossett, Amtrol or Taco.
- C. Manual air vents shall be brass bar stock needle valves with 1/4" NPT female connections and knurled handle. Valves shall be suitable for 600 PSI at 300 degrees F. Acceptable Manufacturers: Weksler Type BBV4 or equal.
- D. Multipurpose valves shall be a combination non-slam check valve, throttling valve, shutoff valve, calibrated balance valve, and system flowmeter.
  - 1. Valves 2-1/2" and larger shall be cast iron construction with 125 psig ANSI flanged connections. The valve shall be fitted with a bronze seat, replaceable bronze disc, stainless steel stem and chatter preventing spring. Each valve shall be equipped with brass readout valves with integral check valves for reading differential pressures across the orifice. The valve shall be designed to permit repacking under full system pressure. Bell & Gossett Model 3D or 3DS or equals by Taco, Amtrol or Paco.
  - 2. Valves 2" and smaller shall be cast iron construction with FPT connections. The valve shall be fitted with a brass EPDM seat, replaceable brass disc, brass stem and chatter preventing stainless steel spring. Each valve shall be equipped with brass readout valves with integral check valve for taking differential pressure readings across the orifice. The valve shall be designed to permit repacking under full system pressure. Bell & Gossett Model 3DX or equals by Taco, Amtrol or Paco.
- E. Gauge Cocks shall be polished brass valves with 1/4" NPT female connections and handles. Valves shall be suitable for 125 psi. Acceptable Manufacturers: Weksler Type A10 or equal by Marsh.
- F. Pressure gauges shall have phosphor bronze bourdon tube and phosphor bronze or stainless steel movement. The gauge case shall be stainless steel. Windows shall be glass or acrylic plastic. Gauges shall have 3-1/2" or larger liquid filled dials with white faces and black graduations. Scales shall have a minimum arc of 260 degrees. Gauges shall be accurate to within 1% of the full scale reading over at least the middle half of the span. The accuracy over the remainder of the scale shall not exceed 2%. Gauge ranges shall be selected so that the normal operating point is approximately mid-scale. Scales shall indicate psi. All gauges shall be provided with a pulsation damper, snubber, restrictor or similar device to dampen pulsation surges (use of the gauge cock for this purpose is not acceptable). Gauges shall have 1/4" NPT bottom outlets. Gauges shall be Weksler No. BY13. Equal by Terice or Marsh will be considered.
- G. Thermometers shall be adjustable angle type with separable matching socket. Thermometers shall have cast aluminum cases with baked enamel finish, red reading mercury tubes with black scale graduations, and glass or acrylic plastic covers. Scales shall be a minimum of 9 inches with appropriate ranges for indicating temperatures at least 25% above and below normal readings. Sockets shall have stem length suitable for pipe receiving thermometer. Sockets and stems shall be brass. Sockets on insulated pipes shall have lagging extensions of adequate length to clear insulation. Thermometers will be Weksler Type AA5, Terice No. BX9-2403, or equal by Marsh or Weiss.
- H. Pressure and Temperature Test Plugs shall have brass bodies with dual, self-sealing internal valves of Nordel, gasketed cap, cap retainer and 1/4" NPT brass fittings. Test plugs shall be rated for 500 psi at 275 degrees F. and designed to receive 1/8" O.D. temperature or pressure probes. Test plugs on insulated pipes shall extend above insulation. Acceptable

Manufacturers: Peterson Equipment Co., Olympic Valve.

- I. Pressure and Temperature test Kit shall consist of one thermometer and one pressure gauge with appropriate adapters for testing and balancing system. Thermometer shall be externally adjustable with bi-element, stainless steel case and stem, 1/2% accuracy, glass cover, 0 degrees to 220 degrees F. scale, 6 inch stem, equal to Weksler Type 2R06. Gauge shall be bourdon type with 3-1/2" dial, direct mounting aluminum case, 0 psi to 200 psi scale with black graduations, 1/2 percent accuracy, glass cover, equal to Weksler Type AA1. Provide gauge adapter equal to R.E. Meyers TAP-500. After completion of project the thermometer and pressure gauge set with adapter will be left with Owner.
- J. Air Separators shall be centrifugal type, tangential flow, 125 psi operating pressure steel tank, perforated stainless steel air collector, drain connection, bottom connection for blowdown cleaning and ASME rated. Inlet and outlet sizes shall be equal to pipe size it is to be installed in. Acceptable Manufacturers: ITT/Bell & Gossett, Thrush/Amtrol, Wheatly, Taco, or Elbi.K.
- K. Expansion Tanks shall be pre-pressurized, captive air bladder type suitable for 125 psig working pressure, ASME certified, replaceable elastomeric bladder suitable for 240 degrees F. maximum operating temperature, acceptance volume per Drawings. Acceptable Manufacturers: ITT/Bell & Gossett, Taco, Wheatly, Thrush/Amtrol, or Elbi.
- L. Pump Suction Diffusers shall be angle type with flanged cast iron body, steel or cast iron vanes, disposable fine mesh startup strainer and removable, coarse mesh, stainless steel permanent strainer. Diffusers shall be provided with an adjustable support leg, a tapped outlet for blowdown and a tapped pressure port at the inlet flange. Diffuser inlet sizes shall equal the pipe size and outlet sizes shall equal the pump inlet size to eliminate the need for a reducer. Acceptable Manufacturers: ITT/Bell & Gossett, Taco, Paco, Grundfos, Thrush/Amtrol
- M. Flexible Pump Connections shall have a corrugated stainless steel inner tube surrounded by a woven wire braid of stainless steel. The ends shall have fixed 150 lb. steel flanges. The maximum working pressure at 70 degrees F. for pipes up to 8 " in diameter shall be 200 psi. For pipes over 8" diameter the working pressure shall be a minimum of 125 psi at 70 degrees F. The working pressure shall allow a 4:1 safety factor. Acceptable Manufacturers: Metraflex Model ML, Keflex Model KSSPC-FLG, Wheatley Series SL or Twin City Hose.
- N. Flexible Equipment Connections
  - 1. Threaded  
Flexible connections shall have a stainless steel inner tube surrounded by a woven wire braid of stainless steel. The ends shall have carbon steel male nipples. The maximum working pressure at 70 degrees F for pipes up to 2" in diameter shall be 400 psi. The working pressure shall allow a 4:1 safety factor. Acceptable manufacturers: Keflex Model KSSPC-MPT, Wheatley Series ST.
  - 2. Flanged  
Flexible Connections shall have a corrugated stainless steel inner tube surrounded by a woven wire braid of stainless steel. The ends shall have fixed 150 lb. steel flanges. The maximum working pressure at 70 degrees F. for pipes up to 8" in diameter shall be 200 psi. For pipes over 8" diameter the working pressure shall allow a 4:1 safety factor. Acceptable Manufacturers: Metraflex Model ML, Keflex Model KSSPC-FLG or Wheatley Series SL.
- O. Strainers shall be wye type body with tapped retainer cap & 20 mesh strainer screen. Ductile iron strainers shall be Watts series 77F-DI, ANSI 250 flanged ends, 250 WSP/500 WPG. Bronze body shall be Watts series LF777S threaded connections, 125 WSP/400

SOP. Equal valves by Wilkins or Spirax Sarco will be considered. Installed on the retaining cap shall be a ¾" blowdown valve with threaded hose connection and brass cap with chain.

## 2.03 VALVES

### A. Gate Valves

1. Threaded  
Bronze body, screw-in bonnet, rising stem, solid wedge, non-asbestos fiber packing, Class 125, Nibco T-111, Grinnell 3010, Stockham B-100
2. Flanged  
Iron body, bolted bonnet, outside screw and yoke, bronze mounted, non-asbestos fiber packing, Class 125, Nibco F-617-0, Grinnell 6020 A, Stockham G-623.
3. Mechanical joint  
Iron body with ProGard Epoxy coated interior and exterior surfaces, bolted bonnet with wrench nut operator, resilient wedge, 350 psi working pressure, Mueller Series 2361 M.J. x M.J or other fittings as conditions required. Provide transition fittings as required between Pre-insulated steel pipe and PEX piping. Provide 5-1/4" adjustable heavy duty cast iron valve box sleeve with cover Mueller MVB or approved equal. Lid shall have Hydronic stamped on top.

### B. Globe Valves

1. Threaded  
Bronze body, screw-in bonnet, integral seat, renewable disc, non-asbestos fiber packing, Class 125, Nibco T-211, Grinnell 3200, Stockham B-16.
2. Flanged  
Iron body, renewable seat and disc, bronze mounted, non-asbestos fiber packing, Class 125, Nibco F-718-B, Grinnell 6200A, Stockham G-512.

### C. Y-Pattern Check Valves

1. Threaded  
Bronze body, horizontal swing, regrinding type, Y-pattern, renewable bronze disc, Class 125, Nibco T-413B, Grinnell 3300, Stockham B-319.
2. Flanged  
Iron body, bolted bonnet, horizontal swing, renewable disc and seat, Class 125, Nibco F-918B, Grinnell 6300A, Stockham G-931.

### D. Spring Check Valves

1. Threaded  
Bronze body, inline lift type, spring actuated, stainless steel, stem and disc holder, Teflon disc and seat ring, Class 125. Nibco T-480 Y, Grinnell 3600, Stockham B-332.
2. Flanged  
Iron body, flanged, globe type, renewable seats and disc, spring actuated, bronze one piece disc, stainless steel spring, bronze seat, Class 125. Nibco F-910-B, Grinnell 502 1/2 through 530, Milwaukee 1800.

- E. Ball Valves, Threaded
  - 1. Bronze, two piece body, conventional port, bronze trim, blow-out proof stem, TFE packing, 400 psi non-shock cold water, oil, gas, extended stem (for insulated piping), Nibco T-580, Grinnell 3500, Watts B-6000.
- F. Butterfly Valves
  - 1. Wafer Style  
Iron body, extended neck, molded in EPDM liner supported by valve seats, stainless steel stem, bronze disc, integrally cast operator/activator mounting pad, lever lock flow control handle, and memory stop (unless noted otherwise on plans, rated for 200 psi service. Nibco WD2000, Grinnell WC-8289-3, Milwaukee CW 233E.
  - 2. Lug Style  
Same as wafer style, except body shall have threaded lugs to mate with standard ANSI Class 125/150 flanges and rated for dead end service. Flange has tapped holes for bolting to flange. Nibco LD 2000, Grinnell LC-8289-3, Milwaukee CL233E.
  - 3. Operators
    - a. Provide lever lock handles with memory stop unless otherwise noted.
    - b. When and where indicated on plans, butterfly valves shall be equipped with an electrical or pneumatic operator which will function with the control system being provided.
- G. Lubricated Plug Valves
  - 1. Threaded  
Semi-steel body, cylindrical plug, full port, wrench operated, 200 lb WOG, 150 lb SWP. Equal to Homestead 601.
  - 2. Flanged  
Semi-steel body, cylindrical plug, full port, wrench operated, 200 lb WOG, 150 lb SWP. Equal to Homestead 602.

## **PART 3 EXECUTION**

### **3.01 GENERAL**

- A. Piping shall be accurately cut to measurements established at the project site, worked into place without springing or forcing, run as directly as possible, run parallel or perpendicular to building lines, located as indicated on the Drawings and supported as specified elsewhere. Parallel piping shall be grouped together as much as practical. Piping shall be supported as high as practical. Piping not located in mechanical rooms shall be concealed unless noted otherwise.
- B. Piping shall be run as directly as possible, avoiding all unnecessary fittings and joints. Changes in routing of piping due to field conditions shall be at the expense of this Contractor.
- C. Contractor shall provide for expansion and contraction of piping systems. Expansion and contraction of piping shall not impart excess stress or strain on the building, pipe fittings, joints or connections to equipment.
- D. Piping shall be installed with sufficient spacing between fittings, valves, flanges, etc. so as to

allow insulation fittings to be installed without trimming or modification.

- E. Slope piping at a minimum slope of 1/8" per foot to ensure complete drainage. Provide drain valves with 3/4" hose thread connections and locking handles at all low points of piping.
- F. Provide sleeves for all piping penetrations of grade beams, floors above grade and walls. All pipe sleeves shall be schedule 40 steel pipe. Sleeves for all uninsulated piping shall be sized to be 2" larger than the pipe and the annular space between the pipe and the sleeve shall be packed with rock wool or other similar material. Sleeves for insulated pipes shall be sized for the piping insulation. The sleeve shall be sealed with caulking to the wall, floor, etc. The packing and sleeves for below grade pipes shall be coated with a water proof mastic on both sides of the construction. Rated walls shall have fire stopping.
- G. Provide escutcheon plates at each exposed piping penetration of walls and ceilings. Escutcheon plates for insulated piping shall be sized for the insulation diameter.
- H. Provide a poured-in-place concrete thrust block for all piping elbows where the piping goes from above grade or slab to horizontally below grade.
- I. All underground valves shall have valve boxes.
- J. If copper branch lines are elected to be used with steel pipe mains, the contractor shall separate the two using brass adaptor fittings.

### **3.02 HYDRONIC SPECIALTIES**

- A. Provide automatic air vents at all high points of piping. Provide manual air vents at piping end of runs. Provide 1/4" soft copper tubing from all air vents to drains. Provide valves on all air vent connections
- B. All pressure gauges shall be installed with a gauge cock and damper device. Gauges shall be installed in such a position to be easily read.
- C. Thermometers shall be installed in a position so they can be easily read.
- D. The solids separator shall be as scheduled on the drawings and installed with a minimum of five pipe diameters of straight pipe from the inlet and outlet connections.
- E. Flexible hoses shall be installed with sufficient slack to allow for expansion and contraction. Sharp twists and bends in the hose shall be avoided. Rubber flexible hoses may be used in all locations except return air plenums where stainless steel braided hoses shall be used.
- F. Flexible pump connections shall be installed in a straight line without any offset, or torque applied. Adjacent piping shall be anchored or hung to prevent the weight of the pipe from being supported by the connector.

### **3.03 VALVES**

- A. Valves shall be the same size as the pipe it is to be installed in.
- B. Valves 2 inches and smaller shall be threaded.
- C. Valves 2 1/2 inches and larger shall be flanged.
- D. Valves shall be installed with stems upright or horizontal, not inverted.

- E. Provide gate or ball valves for shut-off and isolating service, to isolate equipment and as shown on drawings.
- F. Provide ball, globe or plug valves for throttling service.
- G. Butterfly valves may be used in place of gate valves.
- H. Spring loaded check valves shall be used on vertical risers.
- I. Butterfly valves used for equipment isolation shall be lug body.

#### **3.04 TESTING OF HYDRONIC PIPING SYSTEMS**

- A. All hydronic piping systems shall be hydrostatically tested at a pressure of 100 psi or 1.5 times the design working pressure, whichever is greater. Equipment not designed to withstand the test pressure shall be valved off or otherwise isolated from systems during the tests. All coils, heat exchanger surfaces, control valves, coil strainers and balance valves shall be excluded from the pressure test by means of temporarily connecting the supply and return piping from the isolation valves at the unit to each other using a pressure rated hose or the unit flexible hoses and a connector. All system valves shall be open and all strainer screens shall be in place.
- B. The system shall be filled with water and the volume of water required to fill the system shall be recorded. After filling the systems with good quality water, all air shall be purged.
- C. Systems shall be tested for a minimum of 24 hours during which time the test pressure shall remain constant without additional pumping. Each joint shall be examined for leakage while the system is at the test pressure.
- D. Systems may be tested in sections at the Contractor's option; however, the entire system shall be tested as a whole and approved by the Engineer before piping may be insulated.
- E. Leaks found at joints during testing shall be repaired by rewelding, resoldering, rebrazing, tightening of threaded joints or flanges or by installing new fittings. Leaks found in fittings shall be repaired by replacing the fittings. Caulking of joints and peening of welds shall be prohibited.
- F. Systems shall be retested for a minimum of 24 additional hours following any repairs. This procedure shall be repeated until the system is found to be free of leaks and capable of holding the test pressure without additional pumping.

#### **3.05 FLUSHING AND CLEANING OF HYDRONIC PIPING SYSTEMS**

- A. All hydronic piping systems shall be chemically cleaned, flushed and refilled following successful pressure testing and before final balancing. Contractor shall notify the Engineer at least 3 days in advance of cleaning to allow the Engineer to observe the Work.
- B. Systems shall be pre-flushed and drained prior to chemically cleaning. The pump shall be operated at the design flow rate. Pre-flush for 2 hours then drain and clean all strainer screens. By-pass valves shall be installed at all heating and cooling coils to by-pass the coil and coil valve package during the flushing procedure.
- C. Not later than 48 hours after filling and leak testing, the cleaning and passivating chemical provided by the water treatment contractor shall be added to the system.
- D. Water with the cleaning and passivating chemicals in place shall be circulated for not less than 12 hours, nor more than 48 hours. While the system water is being circulated

the pressure drop across the strainer shall be monitored. If the pressure increases during this time, the pump shall be stopped and the strainers shall be cleaned. Once the strainers are cleaned, the pump shall be restarted and the circulation continued for the proscribed period of time. This shall be repeated as required throughout the cleaning.

- E. After the cleaning period of circulation, the system shall be drained as completely as possible, the strainer screens cleaned and then the piping system flushed with clean water. Refill the system with clean water, circulate for 30 minutes and then drain and clean the strainer screens. This flush process shall be repeated until the flush water conductivity approximates that of the intended system make-up water.
- F. After the cleaning and flushing is completed and the system is refilled, the supply to return piping bypass hoses shall be removed and the coils, heat exchangers, control valves, strainers, etc. shall be piped into the piping system as shown in the drawing details. The system shall be refilled and vented to remove air.

**END OF SECTION**



## **SECTION 23 52 46**

### **FIN TUBE TYPE BOILER**

#### **PART 1 GENERAL**

##### **1.01 RELATED DOCUMENTS**

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

##### **1.02 DESCRIPTION OF WORK**

- A. Provide all labor, materials, equipment and services required for complete installation of cooper fin tube type boiler as indicated on Drawings and specified herein.
  - 1. Factory Startup.
  - 2. One (1) year parts and labor warranty from date of substantial completion for all parts. Ten (10) year heat exchanger assembly warranty.

##### **1.03 REFERENCES**

- A. American Society of Mechanical Engineers (ASME).
- B. American Gas Association (AGA).
- C. Underwriters Laboratories (UL)
- D. National Fire Protection Association (NFPA).

##### **1.04 SUBMITTALS**

- A. Submit complete manufacturer's product data and performance data for stainless steel high efficiency condensing heating boiler as specified herein and as scheduled on the drawings.

##### **1.05 REFERENCES**

- A. American Society of Mechanical Engineers (ASME)
- B. American Gas Association (AGA)
- C. Underwriters Laboratories (UL)
- D. National Fire Protection Association (NFPA)

#### **PART 2 - PRODUCTS**

##### **2.01 FIN TUBE TYPE BOILER**

- A. The boilers shall be as scheduled on the drawings.

- B. The water containing section shall be of a "Fin Tube" design, with straight copper tubes having extruded integral fins spaced seven (7) fins per inch. The tubes shall terminate into a one piece, glass lined, cast iron header. There shall be no bolts, gaskets or "O" rings in the head configuration. There shall be access to the front header of the heat exchanger for the purposes of inspection, cleaning or repair. The heat exchanger shall be mounted in a stress free jacket assembly in order to provide a "free floating design" able to withstand the effects of thermal shock. The BOILER shall bear the ASME "H" stamp for 160 psi working pressure and shall be National Board listed. The complete heat exchanger assembly shall carry a ten (10) year limited warranty.
- C. The combustion chamber shall be sealed and completely enclosed with "Loch Heat™" ceramic fiberboard insulation. A burner/flame observation port shall be provided at both ends of the boiler. The burners shall be a premix design, constructed of high temperature stainless steel and fire on a horizontal plane. The BOILER shall have a multi-speed combustion air blower to precisely control the fuel/air mixture for maximum efficiency.
- D. The BOILER shall be constructed with a heavy gauge galvanized steel jacket assembly, primed and pre-painted on both sides with a minimum dry film thickness of 0.70 mils. The jacket design shall allow single unit venting connection without the use of external draft hood devices.
- E. The BOILER shall be certified and listed by C.S.A. International under the latest edition of the harmonized ANSI Z21.13 test standard for the US and Canada. The BOILER shall comply with the energy efficiency requirements of the latest edition of the ASHRAE 90.1 Standard. The BOILER shall operate at a minimum of 85% thermal efficiency.
- F. The BOILER shall be equipped with an Electronic Integrated Control Module with a microprocessor-based platform incorporating software customized for operation of the Lochinvar Copper-Fin II. All internal safety, operating and ignition controls shall be included in the electronic integrated control module. The electronic integrated control module shall provide on/off control of the gas supply to the burner, operation of the combustion air blower, ignition of the gas-air mixture, flame proving, control of water temperature set points, and monitoring of all safety functions via Siemens Talon control system.
- G. The BOILER shall feature the "Smart System" control with a 2-line, 16 character LCD display, password security, outdoor reset, pump delay with freeze protection, pump exercise and PC port connection. The BOILER shall allow 0-10 VDC input connection for BMS control and have built-in "Cascade" to sequence and rotate while maintaining stage firing of up to eight BOILERS without utilization of an external controller. The Copper-Fin II BOILER may be Cascaded to the Lochinvar Crest BOILER for Front End Loading control. Supply voltage shall be 120 volt / 60 hertz / single phase.
- H. Local communication, programming and a display of operating and alarm status conditions shall be accessible through the Smart System control panel. The Smart System control panel shall contain an on/off main power switch, a digital display of a temperature functions, the operational status of the BOILER, or an active alarm fault. Data points visible in the digital display include inlet water temperature, outlet water temperature, water temperature differential, percent firing rate, setpoint temperatures, setpoint differential, outdoor air temperature, minimum temperature, maximum temperature and maximum reset temperature. Operational status shall be displayed for Off, Standby, Pre-purge, Ignition, Space Heating, DHW Heating, and Post-purge. Fault status shall be provided for high limit, gas pressure, low water, blocked drain, louver proving, and air pressure switch status.
- I. The 2,070,000 Btu/hr model shall proportional fire with four stages of burner input. The BOILER selected shall provide 4 individual stages of control. Each stage shall provide for On/Off control of

individual valves and increase/decrease control of the combustion air blower to maintain maximum efficiency at all stages of operation.

- J. The standard operating control system shall include redundant Proven Pilot Hot Surface Ignition with full flame monitoring capability. The Ignition system shall be able to function independently in the event of a failure in one system. Multiple main gas valves with redundant valve seats and built in low gas pressure regulators shall be supplied as standard. Gas valves will be referenced to the combustion chamber to ensure proper air/gas mixture for efficient combustion.
- K. Additional standard controls shall include a flow switch, low air/blocked flue pressure switch for each fan, low voltage transformer for the control circuit, 7 amp circuit breaker and an ASME pressure relief valve. All natural gas models will be equipped with an automatic reset low gas pressure switch. The manufacturer shall verify proper operation of the burners, all controls and the heat exchanger by connection to water and venting for a factory fire test prior to shipping. A quality test report shall be shipped with each unit.
- L. A 24 VAC control circuit and components shall be used. All components shall be easily accessed and serviceable. All components shall have multi pin, plug in type connectors to ease service, troubleshooting and lower removal and replacement cost. The BOILER must be able to maintain approximately 50% operating capacity in the event of a failure of any one (1) control component, ie: gas valve, combustion air fan, ignition control, igniter or pressure switch.
- M. The BOILER shall be approved for indoor installation. The BOILER shall be approved for DirectAire® Vertical, (See mechanical plans). Venting shall be classified Category I, negative draft, non condensing, to use type "B" double wall venting materials. Direct Vent installations require the use of AL29-4C vent materials.
- N. The BOILER shall have an independent laboratory rating for Oxides of Nitrogen (NOx) of less than 20 ppm corrected to 3% O<sub>2</sub>.
- O. The boiler shall be Lochinvar. Equal equipment must be submitted for approval 10 working days before the bid date for consideration. Contractor responsible for confirming all dimensions and additional accessories that may be required when basis of design is not used.

## **2.02 OPTIONS**

- A. The following options shall be provided when indicated in the equipment schedule:
  - 1. See Boiler schedule and sequence of controls on drawings M102 for additional requirements.
  - 2. BOILER lead time is 3-4 weeks maximum from shop drawings approval (submittals due 3 calendar days after NTP) – Coordinate with manufacturer PRIOR to bid.

## **PART 3 - EXECUTION**

### **3.01 FIN TUBE TYPE BOILER**

- A. Contractor shall verify that combustion air ventilation provisions comply with applicable Codes prior to installation of boiler.
- B. Locate boiler on noncombustible floor and housekeeping pad per manufacturer's recommendations and Drawings. Verify compliance with minimum clearances specified by manufacturer and applicable Codes.

- C. Install intake and flue pipes in accordance with manufacturer's recommendations.
- D. Provide ASME pressure and temperature relief valves for each boiler. Piping from relief valves shall be full sized to point of discharge. Discharge shall be piped to existing floor drain as indicated on the Drawings.
- E. Valve and pipe boiler drains to trench drains or floor drains. Elbow down and secure to floor.
- F. Connect hydronic piping to boilers. Provide dielectric unions when joining dissimilar metals. Provide adequate drains to flush and drain the system. Provide thermometers at inlet and outlet of each boiler. Thermometers shall be integrated into the BMS when applicable.
- G. Make the proper electrical connections for the boiler.
- H. Connect gas piping to boilers and bleed in a safe manner. Provide gas pressure regulator to reduce gas pressure to the boiler as required. Do not connect gas if the mechanical room is not ventilated according to Code.
- I. Inspect and test safety controls to verify proper operation. Set the operating controls to the proper temperatures and energize the controls. Observe the ignition of the burners to verify smooth and complete ignition.
- J. Observe the pressure increase as the hydronic system heats up and verify that the increase in pressure does not exceed 10% of design pressure.
- K. Provide a written report on company letterhead that ignition is proper, safety controls have been checked, and operating controls are set and functioning properly. Report the actual pressure drop, the design pressure drop and the total pump head. Submittal of the written report shall be a requirement for Substantial Completion.
- L. The boiler manufacturer shall provide an employed and trained field representative to supervise the initial start-up, and instruct the Owners representative in the operation and maintenance of the boiler. Provided video/audio DVD of training in closeout documents.
- M. The boiler shall be installed and vented as indicated on the Boiler Schedule and or Drawings. The following methods applicable to the Drawings shall be followed:
  - 1. Direct Vent system to the exterior as shown on plans for both the vent and combustion air. The flue shall be Stainless Steel Category IV sealed flue vent material terminating 12" minimum above the roof or per the manufacturer's recommendation with proper vent termination. A separate pipe shall supply combustion air directly to the boiler from the roof as shown on plans. The air inlet pipe may be double wall type "b" vent.
- N. Upon completion of the boiler installation, the contractor shall arrange for the State of Alabama Boiler & Pressure Vessel Safety Division inspector to visit the job site to inspect the boiler installation as required in Alabama Law Chapter 490-X-3-01. After the installation permit is obtained, a second inspection will be required to tag and obtain the operating certificate. Installation permit information is available at [http://www.alalabor.state.al.us/new\\_boiler.htm](http://www.alalabor.state.al.us/new_boiler.htm). The contractor shall furnish a written report of his findings and comply with all comments. The permit shall be conspicuously displayed in the boiler room.

**END OF SECTION**