



# **PROJECT MANUAL**

**FOR**

## **History Museum of Mobile HVAC Upgrades**

**111 S Royal Street  
Mobile, Alabama 36602**

**Project #MU-008-24**

**October 23, 2024**

**Jaguar Consulting, LLC  
8658 Capital Drive North  
Mobile, Alabama 36695**

**City of Mobile  
Architectural Engineering Department  
205 Government Plaza  
P.O. Box 1827  
Mobile, Alabama 36633-1827**

**Bid Date: November 20, 2024**

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SECTION 00100  
INVITATION TO BID

You are invited to submit a sealed bid for construction of the following facility:

PROJECT NAME: History Museum of Mobile  
- HVAC Upgrades  
PROJECT LOCATION: 111 S Royal Street, Mobile, Alabama 36602  
PROJECT NUMBER: MU-008-24

1 BID DATE:

- A. Sealed Bids will be received and clocked in until 2:15 PM local time, Wednesday, the 20th day of November 2024. Bidders shall insert sealed Bids into a receptacle, marked "City of Mobile Bids", located in the elevator lobby outside the office of the City Clerk Office, 9th Floor South Tower, Government Plaza, 205 Government Street, Mobile, Alabama 36602.
- B. All Bids not clocked in at the City Clerk's Office prior to the specified time, or Bids received after the specified time, will be automatically rejected, and returned immediately, unopened.
- C. Bids will be publicly opened and read at 2:30 PM local time, in the Atrium Lobby of Government Plaza.

2 SPECIFICATIONS AND DRAWINGS:

- A. Specifications and Drawings are on file and may be examined and obtained from the following location: <https://www.cityofmobile.org/bids/>
- B. Bidders shall use complete sets of Bid Documents in preparing their bid. Neither the Owner nor Architect/Engineer assumes responsibility for errors or misinterpretations resulting from the use of incomplete sets of Bid Documents.
- C. **Addenda will be posted on the City of Mobile Bidding Website.**  
<https://www.cityofmobile.org/bids/>
- D. **This is a tax-exempt project and shall be certified by the requirements of the Alabama Department of Revenue. Bidders shall NOT include sales and use taxes with their bid amounts. Bidders shall complete the Sales Tax Form C-3A and include it as an attachment to their Bid Form (see Section 00400).**
- E. Product Substitutions must be pre-approved before the bid (see Section 01635 Substitution Procedures for requirements).

3 BID SURETY: Required on Bids \$50,000.00 or more

- A. A Cashier's Check drawn on a bank registered to do business in the State of Alabama, and which is a member of the Federal Deposit Insurance Corporation, or a Bid Bond payable to Owner, City of Mobile, in the amount of 5% of the Base Bid, but in no event more than \$10,000.00 is required to accompany Bid.
- B. Bid Bond must be issued by a Surety licensed to do business in the State of Alabama. Bidder shall require the attorney in fact who executes the required bonds on behalf of the surety to affix to the bond a certified and current copy of the power of attorney.



- C. No Bid may be modified, withdrawn, or canceled for a period of sixty (60) days after the time designated above for receipt of bids.
  - D. The City of Mobile will have sixty (60) days from the bid opening date to award contract.
- 4 SURETY QUALIFICATIONS:
- A. A Surety authorized to do business in the State of Alabama must issue Bonds.
  - B. If the Base Bid is \$50,000 or more, the Surety must have a minimum rating of A/Class VI as reported by the latest issue of Best Key Rating Guide Property-Casualty published by Alfred M. Best Company, Inc.
- 5 IRREGULARITIES AND REJECTION:
- A. The City of Mobile reserves the right to waive irregularities in the Bid and in Bidding, and to reject any or all Bids.
- 6 BIDDER QUALIFICATIONS:
- A. Bids for Work costing \$50,000 or more must be licensed pursuant to current Alabama law and of classifications compliant with the State of Alabama Licensing Board for General Contractors. Note that if the contract amount is \$10,000 or greater, both a Performance Bond and a Labor and Material Payment Bond shall be required. **Before Bidding, Contractor shall verify their license classification of their General Contractors license with the State of Alabama Licensing Board for General Contractors to verify classification is acceptable to perform 51% of the Scope of Work.**
  - B. In case of a joint venture of two or more Contractors, the amount for the bid shall be within the maximum bid limitations as set by the State of Alabama Licensing Board for General Contractors of at least one of the partners to the joint venture.
- 7 NON-RESIDENT CONTRACTORS:
- A. Except for contracts funded in whole or part with funds received from a federal agency, preference shall be given to resident Contractors on the same basis as the nonresident Contractor's state awards contracts to Alabama Contractors bidding in similar circumstances.
  - B. Nonresident Bidders shall, prior to submitting a bid, be registered with the Alabama Secretary of State and the Alabama Department of Revenue. Provide the Secretary of State Business "Entity ID Number" on the Bid Form in the space provided.
- 8 PRE-BID CONFERENCE:
- A. A pre-bid conference will be held on November 7, 2024, at 9:00 am on site at the History Museum chiller area. For access to interior areas and the chillers area, contact the facilities manager, Ronson Marsh (901-497-2489) at least 24 hours in advance to arrange access. Note that any information conveyed by facility personnel outside written addenda is not official.
- 9 BID SUBMITTAL:
- A. Bids must be submitted on copies of the Bid Forms furnished in the bidding documents.

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- B. Bid, with Bid Security, Sales Tax Form C-3A, City of Mobile Subcontracting and Major Supplier Plan and other supporting data specified, shall be contained in a sealed, opaque envelope, approximately 9x12 inches or larger and be marked on the outside with the words "**SEALED BID FOR HISTORY MUSEUM OF MOBILE – HVAC Upgrades - PROJECT NUMBER: MU-008-24**".
- C. The Bid envelope shall be clearly addressed to the Owner as indicated on the Bid Form and include the bid date, the name, address and State License number and classification of the Bidder issued by the State of Alabama Licensing Board for General Contractors.
- D. All Bids of \$50,000 or more must include the bidder's State of Alabama General Contractor's License information written on the outside of the bid envelope. Any bid submitted without such license information may be rejected and returned to the bidder unopened.
- E. In addition, in large letters on both front and back of envelope, write the following: **DO NOT OPEN UNTIL TWO-THIRTY PM, NOVEMBER 20, 2024.**
- F. For a bid to be valid it shall be delivered at designated location prior to time and date for receipt of Bids indicated in INVITATION TO BID, or prior to any extension thereof issued to Bidders. After that time no Bid will be received or withdrawn.
- G. When sent by mail, preferably special delivery, express service, or registered mail, the sealed Bid, marked as indicated above, shall be enclosed in another envelope for mailing such that the exterior mailing container or envelope may be opened without revealing the contents of the Bid. It is the Contractors responsibility to assure delivery of the bid to the City Clerk's Office prior the time and date established.

10 EQUAL OPPORTUNITY:

- A. The City of Mobile, Alabama is an Equal Opportunity Employer and requires that all Contractors comply with the Equal Employment Opportunity laws and the provisions of the Bid Documents in this regard.
- B. The City of Mobile also encourages and supports the utilization of Minority Business Enterprises on these and all other publicly solicited Bids and shall be in compliance with the City of Mobile's Minority Utilization Plan as adopted by the City Council.
- C. Contractor shall provide an appropriately completed copy of the "City of Mobile Subcontracting and Major Supplier Plan" in the envelope with their Bid Form. Form shall document DBE Subcontractors participating in the project and, should the total % of DBE participation not meet the 15% minimum, all efforts to obtain DBE Subcontractors shall be documented on or attached to the DBE Form when submitted. During construction, contractors are required to submit a "DBE Utilization Report" with every Pay Application.
- D. Contractors should contact the City of Mobile, Supplier Diversity Manager for assistance with DBE Subcontractor information and any questions regarding the DBE Compliance Forms. Contact Archnique Kidd at 251-208-7967.

- E. A Directory of DBE Vendors can be found at the following location:  
<https://workwith.cityofmobile.org/>

#### 11 ADDITIONAL BIDDING PROCEDURES:

- A. Refer to the complete information in the Bid Documents prior to submitting a bid. Additional Bidding Procedure information is contained therein, particularly in the specification Section 00200 "Instructions to Bidders - AIA Document A701" and in the specification Section 00300 "Supplementary Instructions to Bidders".

#### 12 STATE OF ALABAMA IMMIGRATION ACT

"The State of Alabama, under the Beason-Hammon Alabama Taxpayer and Citizen Protection Act, Act No. 2011-535, Alabama Code Section 31-13-1, et. Seq., requires:

- A. That the Contractor shall be enrolled in the E-Verify Program, shall participate in that Program during the performance of the contract, and shall verify the immigration status of every employee who is required to be verified, according to the applicable federal rules and regulations; and
- B. That it will attach to the contract the company's documentation of enrollment in E-Verify.
- C. The subcontractor must also enroll in the E-Verify Program prior to performing any work on the contract and shall attach to its sworn affidavit documentation establishing that the subcontractor is enrolled in the E-Verify Program.

#### 13 PUBLIC CONTRACTS WITH ENTITIES ENGAGING IN CERTAIN BOYCOTT ACTIVITIES

- A. By signing this contract, Contractor further represents and agrees that it is not currently engaged in, nor will it engage in, any boycott of a person or entity based in or doing business with a jurisdiction with which the State of Alabama can enjoy open trade.

END OF SECTION 00100

**SECTION 00200**  
**INSTRUCTIONS TO BIDDERS**

**PART 1 GENERAL**

- A. This section includes the INSTRUCTIONS TO BIDDERS, AIA Document A701 to be utilized with the Owner's most recent modifications and which shall be used in conjunction with the entire Bid Documents and Section 00300 SUPPLEMENTARY INSTRUCTIONS TO BIDDERS for this project.

# DRAFT AIA® Document A701™ - 2018

## Instructions to Bidders

for the following Project:

*(Name, location, and detailed description)*

«History Museum of Mobile – HVAC Upgrades»  
«111 S Royal Street »  
«Mobile, AL 36602 »  
«MU-008-24 »

### THE OWNER:

*(Name, legal status, address, and other information)*

«City of Mobile »« »  
«PO Box 1827 »  
«Mobile, Alabama 36633-1827 »  
« »

### THE ARCHITECT:

*(Name, legal status, address, and other information)*

«City of Mobile  
Architectural Engineering Department.»  
«P.O. Box 1827 »  
«Mobile, Alabama 36633-1827 »

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**ADDITIONS AND DELETIONS:**  
The author of this document has added information needed for its completion. The author may also have revised the text of the original AIA standard form. An *Additions and Deletions Report* that notes added information as well as revisions to the standard form text is available from the author and should be reviewed.

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

FEDERAL, STATE, AND LOCAL LAWS MAY IMPOSE REQUIREMENTS ON PUBLIC PROCUREMENT CONTRACTS. CONSULT LOCAL AUTHORITIES OR AN ATTORNEY TO VERIFY REQUIREMENTS APPLICABLE TO THIS PROCUREMENT BEFORE COMPLETING THIS FORM.

It is intended that AIA Document G612™-2017, Owner's Instructions to the Architect, Parts A and B will be completed prior to using this document.



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## ARTICLE 1 DEFINITIONS

§ 1.1 Bidding Documents include the Bidding Requirements and the Proposed Contract Documents. The Bidding Requirements consist of the advertisement or invitation to bid, Instructions to Bidders, supplementary instructions to bidders, the bid form, and any other bidding forms. The Proposed Contract Documents consist of the unexecuted form of Agreement between the Owner and Contractor and that Agreement's Exhibits, Conditions of the Contract (General, Supplementary and other Conditions), Drawings, Specifications, all Addenda, and all other documents enumerated in Article 8 of these Instructions.

§ 1.2 Definitions set forth in the General Conditions of the Contract for Construction, or in other Proposed Contract Documents apply to the Bidding Documents.

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

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

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

§ 1.6 An Alternate Bid (or Alternate) is an amount stated in the Bid to be added to or deducted from, or that does not change, the Base Bid if the corresponding change in the Work, as described in the Bidding Documents, is accepted.

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

§ 1.8 A Bidder is a person or entity who submits a Bid and who meets the requirements set forth in the Bidding Documents. A Bidder must be licensed by the State Licensing Board for General Contractors if the amount for the Contract exceeds the amount established by said Board.

§ 1.9 A Sub-bidder is a person or entity who submits a bid to a Bidder for materials, equipment, or labor for a portion of the Work. A Sub-bidder performing Work must be licensed by the State Licensing Board for General Contractors if the Sub-bidders' contract amount exceeds that established by said Board.

1.10 A non-resident Bidder or Sub-bidder is one who

- a. Is neither organized nor existing under the laws of the State of Alabama
- b. nor maintains its principal place of business in the State of Alabama.

A non-resident contractor who has maintained a permanent branch office within the State of Alabama for at least five (5) continuous years shall not thereafter be deemed to be a non-resident contractor so long as such contractor continues to maintain a branch office within Alabama.

## ARTICLE 2 BIDDER'S REPRESENTATIONS

§ 2.1 By submitting a Bid, the Bidder represents that:

- .1 the Bidder has read and understands the Bidding Documents;
- .2 the Bidder understands how the Bidding Documents relate to other portions of the Project, if any, being bid concurrently or presently under construction;
- .3 the Bid complies with the Bidding Documents;
- .4 the Bidder has visited the site, become familiar with local conditions under which the Work is to be performed, and has correlated the Bidder's observations with the requirements of the Proposed Contract Documents;
- .5 the Bid is based upon the materials, equipment, and systems required by the Bidding Documents without exception; and
- .6 the Bidder has read and understands the provisions for liquidated damages, if any, set forth in the form of Agreement between the Owner and Contractor.

§ 2.2 The Bidder is licensed by the State Licensing Board for General Contractors and the amount Bid does not exceed the Bid Limit stipulated in the Bidder's License and by the City of Mobile.

§ 2.3 Each and every Contractor belonging to or comprising a part of any entity that is bidding as a joint venture or association involving two or more contractors is licensed by the State Licensing Board for General Contractors and that the amount Bid does not exceed the Bid limit stipulated in at least one of their licenses.

§ 2.4 Any non-resident Bidder is authorized by the Secretary of State of Alabama and is registered with Alabama Department of Revenue to transact business in Alabama.

§ 2.5 Joint Ventures or Associations of Contractors, whether the same are Bidders or Subcontractors of Bidders, will remain in existence until all insurance and warranty requirements for the Project have been fulfilled.

### **ARTICLE 3 BIDDING DOCUMENTS**

#### **§ 3.1 Distribution**

§ 3.1.1 Bidders shall obtain complete Bidding Documents, as indicated below, from the issuing office designated in the advertisement or invitation to bid, for the deposit sum, if any, stated therein.

§ 3.1.2 Any required deposit shall be refunded to Bidders who submit a bona fide Bid and return the paper Bidding Documents in good condition within ten days after receipt of Bids. The cost to replace missing or damaged paper documents will be deducted from the deposit. A Bidder receiving a Contract award may retain the paper Bidding Documents, and the Bidder's deposit will be refunded.

§ 3.1.3 Bidding Documents will not be issued directly to Sub-bidders unless specifically offered in the advertisement or invitation to bid, or in supplementary instructions to bidders.

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

§ 3.1.5 The Bidding Documents will be available for the sole purpose of obtaining Bids on the Work. No license or grant of use is conferred by distribution of the Bidding Documents.

#### **§ 3.2 Modification or Interpretation of Bidding Documents**

§ 3.2.1 The Bidder shall carefully study the Bidding Documents, shall examine the site and local conditions, and shall notify the Architect of errors, inconsistencies, or ambiguities discovered and request clarification or interpretation pursuant to Section 3.2.2.

§ 3.2.2 Requests for clarification or interpretation of the Bidding Documents shall be submitted by the Bidder in writing and shall be received by the Architect at least five (5) calendar days prior to the date for receipt of Bids.

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

§ 3.2.4 The Contract Drawings and Specifications are intended to cooperate and agree, but should conflicts or difference be found to exist between the requirements within either and clarification has not been obtained in accordance with the above procedure prior to Bidding, then the most costly and/or restrictive interpretation by the decision of the Architectural Engineering Department Director will be final.

#### **§ 3.3 Substitutions**

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

#### **§ 3.3.2 Substitution Process**

§ 3.3.2.1 Written requests for substitutions shall be received by the Architect at least seven (7) calendar days prior to the date for receipt of Bids. Requests shall be submitted in the same manner as that established for submitting clarifications and interpretations in Section 3.2.2.

§ 3.3.2.2 Bidders shall submit substitution requests on a Substitution Request Form if one is provided in the Bidding Documents.



§ 3.3.2.3 If a Substitution Request Form is not provided, requests shall include (1) the name of the material or equipment specified in the Bidding Documents; (2) the reason for the requested substitution; (3) a complete description of the proposed substitution including the name of the material or equipment proposed as the substitute, performance and test data, and relevant drawings; and (4) any other information necessary for an evaluation. The request shall include a statement setting forth changes in other materials, equipment, or other portions of the Work, including changes in the work of other contracts or the impact on any Project Certifications (such as LEED), that will result from incorporation of the proposed substitution.

§ 3.3.3 The burden of proof of the merit of the proposed substitution is upon the proposer. The Architect's decision of approval or disapproval of a proposed substitution shall be final.

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

§ 3.3.5 No substitutions will be considered after the Contract award unless specifically provided for in the Contract Documents.

§ 3.3.6 See Division One Section "Substitution Procedures", if included in Specification.

#### § 3.4 Addenda

§ 3.4.1 Addenda will be posted on the City of Mobile bidding website: <https://www.cityofmobile.org/bids/>

§ 3.4.2 Addenda will be available where Bidding Documents are on file.

§ 3.4.3 Addenda will be issued no later than two (2) days prior to the date for receipt of Bids, except an Addendum withdrawing the request for Bids or one which includes postponement of the date for receipt of Bids.

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

### ARTICLE 4 BIDDING PROCEDURES

#### § 4.1 Preparation of Bids

§ 4.1.1 Bids shall be submitted on the forms included with or identified in the Bidding Documents. No bid will be considered unless made out and submitted on a copy of the Bid Form, Section 00410. Additional Bid Forms will be furnished to prospective Bidders upon request.

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

§ 4.1.3 Sums shall be expressed in both words and numbers, unless noted otherwise on the bid form. In case of discrepancy, the amount entered in words shall govern.

§ 4.1.4 Edits to entries made on paper bid forms must be initialed by the signer of the Bid.

§ 4.1.5 All requested Alternates shall be bid. If no change in the Base Bid is required, enter "No Change" or as required by the bid form.

Unit Prices: Supply requested Unit Prices where shown on the Bid Form. Such Unit Prices shall be used to adjust the Contract Amount where the quantities shown on the Drawings and/or Specifications do not reflect amounts required for completion of the work. Where Completion of the Work requires quantities in excess of those shown on the drawings and specifications, unit prices shall be used to compute an extra payment to the Contractor. Where completion of work required quantities less than those on the Drawings and/or specifications, unit prices shall be used to compute a credit to the Owner.

Contingency Allowance: As shown on the Bid Form, Contractor shall add the amount of the contingency allowance to the Base Bid to derive the Total Bid. The contingency allowance shall cover cost of material, labor, overhead, profit and other expenses for complete installation of items of additional work as required for a complete functional project.

The contingency allowance shall be used to fund unforeseen conditions not covered in the construction documents and shall be subject to the provisions of change orders. Upon the completion of work any unused portion of the contingency allowance shall be credited to the Owner by change order.

§ 4.1.6 Where two or more Bids for designated portions of the Work have been requested, the Bidder may, without forfeiture of the bid security, state the Bidder's refusal to accept award of less than the combination of Bids stipulated by the Bidder. The Bidder shall neither make additional stipulations on the bid form nor qualify the Bid in any other manner.

§ 4.1.7 Each copy of the Bid shall state the legal name and legal status of the Bidder. As part of the documentation submitted with the Bid, the Bidder shall provide evidence of its legal authority to perform the Work in the jurisdiction where the Project is located. Each copy of the Bid shall be signed by the person or persons legally authorized to bind the Bidder to a contract. A Bid by a corporation shall further name the state of incorporation and have the corporate seal affixed. A Bid submitted by an agent shall have a current power of attorney attached, certifying the agent's authority to bind the Bidder.

§ 4.1.8 A Bidder shall incur all costs associated with the preparation of its Bid.

#### § 4.2 Bid Security

§ 4.2.1 Each Bid shall be accompanied by the following bid security if so required in the Bidding Documents:  
*(Insert the form and amount of bid security.)*

«The Bidder shall provide a Bid Security in the form of a cashier's check drawn on a bank registered to do business in the State of Alabama and which is a member of the Federal Deposit Insurance Corporation, or a Bid Bond. Bid Security is required for bids exceeding \$10,000.00. Bid Security shall be in the amount of 5% of the TOTAL BID, but in no event more than \$10,000.00.»

§ 4.2.2 The Bidder pledges to enter into a Contract with the Owner on the terms stated in the Bid and shall, if required, furnish bonds covering the faithful performance of the Contract and payment of all obligations arising thereunder. Should the Bidder refuse to enter into such Contract or fail to furnish such bonds if required, the amount of the bid security shall be forfeited to the Owner as liquidated damages, not as a penalty.

§ 4.2.3 If a surety bond is required as bid security, it shall be written on AIA Document A310™, Bid Bond, unless otherwise provided in the Bidding Documents. The attorney-in-fact who executes the bond on behalf of the surety shall affix to the bond a certified and current copy of an acceptable power of attorney. The Bidder shall provide surety bonds from a company or companies lawfully authorized to issue surety bonds in the jurisdiction where the Project is located.

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

§ 4.2.5 Bonds must be issued by a Surety authorized to do business in the State of Alabama. A Performance Bond and a Labor and Material Payment Bond are required for projects exceeding \$10,000.00. If the project cost is \$50,000.00 or more, the Surety must have a minimum rating of A/Class VI as reported by the latest issue of Best's Key Rating Guide Property-Casualty published by Alfred M. Best Company, Inc.

#### § 4.3 Submission of Bids

§ 4.3.1 A Bidder shall submit its Bid as indicated below:

*(Indicate how, such as by website, host site/platform, paper copy, or other method Bidders shall submit their Bid.)*

«Submission of Bid shall be as stated in Section 00100, Invitation to Bid, Paragraph 9, titled "Bid Submittal".»

§ 4.3.3 Bids shall be submitted by the date and time and at the place indicated in the invitation to bid. Bids submitted after the date and time for receipt of Bids, or at an incorrect place, will not be accepted and will be returned unopened.

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

§ 4.3.5 A Bid submitted by any method other than as provided in this Section 4.3 will not be accepted.

#### § 4.4 Modification or Withdrawal of Bid

§ 4.4.1 Prior to the date and time designated for receipt of Bids, a Bidder may submit a new Bid to replace a Bid previously submitted, or withdraw its Bid entirely, by notice to the party designated to receive the Bids. Such notice shall be received and duly recorded by the receiving party on or before the date and time set for receipt of Bids. The receiving party shall verify that replaced or withdrawn Bids are removed from the other submitted Bids and not considered. Notice of submission of a replacement Bid or withdrawal of a Bid shall be worded so as not to reveal the amount of the original Bid.

§ 4.4.2 Withdrawn Bids may be resubmitted up to the date and time designated for the receipt of Bids in the same format as that established in Section 4.3, provided they fully conform with these Instructions to Bidders. Bid security, if required, shall be in an amount sufficient for the Bid as resubmitted.

### ARTICLE 5 CONSIDERATION OF BIDS

#### § 5.1 Opening of Bids

If stipulated in an advertisement or invitation to bid, or when otherwise required by law, Bids properly identified and received within the specified time limits will be publicly opened and read aloud. A summary of the Bids may be made available to Bidders.

#### § 5.2 Rejection of Bids

Unless otherwise prohibited by law, the Owner shall have the right to reject any or all Bids.

#### § 5.3 Acceptance of Bid (Award)

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

§ 5.3.2 The Owner shall accept Alternates in the order listed on the Bid Form to determine the lowest responsive and responsible Bidder on the basis of the sum of the Base Bid and Alternates accepted.

### ARTICLE 6 POST-BID INFORMATION

#### § 6.1 Contractor's Qualification Statement

Bidders to whom award of a Contract is under consideration shall submit to the Architect, upon request and within the timeframe specified by the Architect, a properly executed AIA Document A305™, Contractor's Qualification Statement, unless such a Statement has been previously required and submitted for this Bid.

#### § 6.3 Submittals

§ 6.3.1 After notification of selection for the award of the Contract, the Bidder shall, within three (3) calendar days or as stipulated in the Bidding Documents, submit in writing to the Owner through the Architect:

- .1 a designation of the Work to be performed with the Bidder's own forces;
- .2 names of the principal products and systems proposed for the Work and the manufacturers and suppliers of each; and
- .3 names of persons or entities (including those who are to furnish materials or equipment fabricated to a special design) proposed for the principal portions of the Work.
- .4 The name of the Project Superintendent and Project Manager together with the resume of qualifications of each;
- .5 Nonresident Contractor shall submit a letter from an attorney as required by Subparagraph 11.1.2 below and;
- .6 Engineering Firm or Testing Laboratory for testing as specified.

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

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

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

§ 6.3.5 The Contractor shall, within ten (10) calendar days of receiving Contract Forms for signature, furnish to the Owner the following items, along with the signed contract, or the Bid Security will be forfeited automatically without further delay:

- .1 A Signed Construction Contract;
- .2 Performance Bond and Labor and Material Payment Bond (originals) on all Bids over \$10,000.00;
- .3 Certificate of Insurance and copy of Builder's Risk Policy (original), as identified in the specifications;
- .4 Schedule of Values; and
- .5 Federal Immigration Law Compliance: E-Verify enrollment documentation.

§ 6.3.6 The Bid Check or Bond of the three (3) lowest Bidders will not be returned until after the Construction Contract is executed.

## **ARTICLE 7 PERFORMANCE BOND AND PAYMENT BOND**

### **§ 7.1 Bond Requirements**

§ 7.1.1 If stipulated in the Bidding Documents, the Bidder shall furnish bonds covering the faithful performance of the Contract and payment of all obligations arising thereunder.

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

§ 7.1.3 The Bidder shall provide surety bonds from a company or companies lawfully authorized to issue surety bonds in the jurisdiction where the Project is located.

§ 7.1.4 Unless otherwise indicated below, the Penal Sum of the Payment and Performance Bonds shall be the amount of the Contract Sum.

§ 7.1.4 A Surety authorized to do business in the State of Alabama shall issue Performance Bond and Labor and Material Payment Bond, as required by the Contract Documents. If the project cost is \$50,000.00 or more, the Surety must have a minimum rating of A/Class VI as reported by the latest issue of Best's Key Rating Guide Property-Casualty, published by Alfred M. Best Company, Inc.

### **§ 7.2 Time of Delivery and Form of Bonds**

§ 7.2.1 The Bidder shall deliver the required bonds to the Owner not later than ten (10) calendar days from receiving the Construction Contract forms for signature.

§ 7.2.2 The bonds shall be written on City's Performance Bond and Labor and Material Payment Bond forms.

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

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

## **ARTICLE 8 FORM OF AGREEMENT BETWEEN OWNER AND CONTRACTOR**

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

**§ 8.1.1** AIA Document A101, Standard Form of Agreement Between Owner and Contractor where the Basis of Payment is a stipulated sum will be edited electronically and include the standard signatures as required by the City of Mobile.

## **ARTICLE 9 NONDISCRIMINATION**

**§9.1.1** Contractor shall comply with all Federal, State and local laws concerning nondiscrimination, including but not limited to City of Mobile Ordinance No. 14-034 which requires, *inter alia*, that all contractors performing work for the City of Mobile not discriminate on the basis of race, creed, color, national origin or disability, require that all subcontractors they engage do the same, and make every reasonable effort to assure that fifteen percent of the work performed under contract be awarded to socially and economically disadvantaged individuals and business entities. Contractor shall provide a completed copy of the City of Mobile Subcontracting and Major Supplier Plan with the Bid Form, for bids of \$250,000.00 or greater.

## **ARTICLE 10 USE OF DOMESTIC PRODUCTS**

**§ 10.1.1** Section 39-3-1 Code of Alabama provides that the Contractor agrees, in the execution of this contract, to use material supplies and products manufactured, mined, processed or otherwise produced in the United States or its territories, if available at reasonable prices, and that breach of this agreement by the Contractor shall result in the assessment of liquidated damages in an amount not less than \$500 nor more than 20 percent of the gross amount of the contract price.

**§ 10.1.2** Section 39-3-4, Code of Alabama provides that the Contractor for a municipal construction project, financed by the State of Alabama or any political subdivision thereof, is required to use steel produced within the United States. If the Contractor violates the requirement to use domestic steel, this contract will automatically be revoked and the contractor shall not be entitled to any set-off or recoupment for labor or materials used up to the time of revocation.

## **ARTICLE 11 PREFERENCE TO RESIDENT CONTRACTORS**

**§ 11.1.1** Except for contracts funded in whole or in part with funds received from a federal agency, preference shall 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 contracts only on the same basis as a the nonresident bidder's state awards contracts to Alabama contractors bidding under similar circumstances. In the letting of public contracts in which any state, county or municipal funds are utilized, resident contractors in Alabama, be they corporations, individuals or partnerships, are to be granted preference over nonresidents in awarding of contracts in the same manner and to the same extent as provided by the laws of the state of domicile of the nonresident.

**§ 11.1.2** A successful nonresident bidder shall include in his post bid submittals a written opinion of an attorney at law licensed to practice law in such nonresident bidders' state of domicile, as to the preferences, if any or none, granted by the law of that state to its own business entities whose principal places of business are in that state in the letting of any or all public contracts.

## **ARTICLE 12 PRE-BID REQUIREMENTS**

### **§ 12.1 STATE OF ALABAMA CONTRACTORS LICENSE**

**§ 12.1.1** If the Project total bid amount is \$50,000 or more, a license issued by the State of Alabama Licensing Board for General Contractors is required prior to submitting a bid and the licensed classification and bid limits must cover the type of work in this project. See Invitation to Bid, Section 6 "Bidder Qualifications".

### **§ 12.2 A NONRESIDENT BIDDER**

**§ 12.2.1** Every bidder shall be registered with the Department of Revenue and with the Alabama Secretary of the State prior to bidding. The Secretary of State's "Business Entity ID" registration number shall be included on the bid form.

## **ARTICLE 13 POST-BID REQUIREMENTS**

### **§ 13.1 CITY CONTRACTOR'S LICENSE**

**13.1.1** A City of Mobile Contractors License is required and must be current before the Contractor signs the Contract. Contractor must qualify and post \$10,000.00 Surety Bond with the Land Use/Code Administration Department before a Contractors License will be issued by the Revenue Department. Information on the City Contractors License may be obtained by writing or calling:

Land Use/Code Administration  
P. O. Box 1827  
Mobile, Alabama 36633-1827  
Phone: 251.208.7421

Revenue Department  
P. O. Box 1827  
Mobile, Alabama 36633-1827  
251.208.7461

**13.2 E-VERIFY DOCUMENTATION**

§ 13.2.1 The Contractor agrees that it shall comply with all of the requirements of the State of Alabama Immigration Law (Act. No. 2011-535 as amended by Act. No. 2012-491, Alabama Code (1975) Section 31-13-1, et. Seq., See Section 31-13-9), and the provisions of said Law, including all penalties for violation thereof, are incorporated therein.

**13.3 PUBLIC CONTRACTS WITH ENTITIES ENGAGING IN CERTAIN BOYCOTT ACTIVITIES**

§ 13.3 The Contractor represents and agrees that it is not currently engaged in, nor will engage in, any boycott of a person or entity based in or doing business with a jurisdiction with which the State of Alabama can enjoy open trade.





SECTION 00300

SUPPLEMENTARY INSTRUCTIONS TO BIDDERS

**THE ATTENTION OF ALL BIDDERS IS CALLED TO THE FOLLOWING INSTRUCTIONS AND CONDITIONS:**

1. BIDDING DOCUMENTS:

- A. Bidders may obtain complete sets of Bid Documents and Specifications (Project Manual) from the Department of Architectural Engineering as listed in the Invitation to Bid.
- B. Bidders shall use the complete set of documents in preparing their bid. The City of Mobile assumes no responsibility for errors or misinterpretations resulting from the use of an incomplete set of documents.

Bidders shall use the complete set of documents in preparing their bid. Neither the City of Mobile nor the Engineer assume responsibility for errors or misinterpretations resulting from the use of an incomplete set of documents.

2. INTERPRETATION OF BID DOCUMENTS:

- A. Bidders shall carefully study and compare the Bidding Documents and compare various components of the Bidding Documents with each other, shall examine the site and local conditions and shall at once report to the Project Manager any errors, inconsistencies or ambiguities discovered.
- B. Bidders requiring clarification or interpretation of the Bidding Documents shall make a written request to the Project Manager by 3:00 PM November 13, 2024. E-mail requests are required and should be addressed to the Project Manager [jody.russell@cityofmobile.org](mailto:jody.russell@cityofmobile.org) . Interpretations, corrections and changes to the Bidding Documents will be made by a formal, written Addendum. Interpretations, corrections and changes to the Bidding Documents made in any other manner will not be binding, and Bidders shall not rely on them.
- C. Any discrepancy not resolved prior to Bidding shall be bid by the Contractor to provide for the costliest and/or restrictive interpretation of the documents.

3. BIDDING PROCEDURES:

- A. No Bid will be considered unless made out and submitted on a copy of the Bid Form as set forth by the Bid Documents.
- B. All blanks on the Bid Form shall be legibly executed in a non-erasable medium.
- C. Sums shall be expressed in both words and figures. In case of discrepancy, the amount written in words shall govern.
- D. Interlineations, alterations and erasures must be initialed by the signer of the Bid.

- E. All requested Alternates, Unit Prices and Allowances shall be bid as indicated on the Bid Form and the Bid Documents.
- F. Addenda shall be considered as a part of the Bid Documents and those issued prior to the opening of Bids shall be acknowledged on the Bid Form and any adjustment in cost shall be included in the Contract Sum.

4. BID SECURITY:

- A. A Cashier's Check drawn on a bank registered to do business in the State of Alabama, and which is a member of the Federal Deposit Insurance Corporation, or Bid Bond payable to Owner, City of Mobile, in the amount of 5% of the Base Bid, but in no event more than \$10,000.00, must accompany bid. By submitting a Bid Security, the Bidder pledges to enter into a Contract with the City of Mobile on the terms stated in the Bid, and will, if required, furnish bonds covering faithful performance of the Contract and required insurance certificate. Should the Bidder refuse to enter into such Contract or fail to furnish such bonds or insurance or any other required document, the amount of the Bid security shall be forfeited to the Owner as liquidated damages, not as a penalty.
- B. Bid Bond shall be valid for a minimum of sixty (60) days from the date of the Bid. The Owner reserves the right to retain the security of all Bidders until the successful Bidder enters into the Contract or until (60) days after Bid opening, whichever is sooner.
- C. Bonds must be issued by a Surety licensed to do business in the State of Alabama. If the project cost is more than \$50,000.00 the Surety must have a minimum rating of A/Class VI as reported by the latest issue of Best's Key Rating Guide Property-Casualty published by Alfred M. Best Company, Inc.
- D. Power of Attorney is required for all Bonds.
- E. The Surety company shall be required to execute AIA Document G-707, "Consent of Surety to Final Payment" prior to Final Payment of retainage being made to the Contractor.

5. EXAMINATION OF DOCUMENTS AND SITE WORK:

- A. Before submitting a Bid, Bidders should carefully examine the Bid Documents, visit the site of the Work and fully inform themselves as to existing conditions and limitations, and include in the Bid a sum to cover the cost of all items included in the Contract and necessary to perform the Work. The submission of a Bid will be considered as conclusive evidence that the Bidder has made such examination.
- B. **Request for substitutions shall be entertained pre-bid only. Submit requests in accordance with Section 01635 Substitutions via e-mail to the Project Manager by 3:00 pm November 13, 2024.**



6. SUBMISSION OF BIDS:

- A. Bid, with Bid Security, Sales Tax Form C-3A, City of Mobile Subcontracting & Major Supplier Plan and other supporting data specified, shall be contained in a sealed, opaque envelope, approximately 9 x 12 inches or larger and be marked on the outside with the words "SEALED BID FOR HISTORY MUSEUM OF MOBILE – HVAC Upgrades PROJECT NUMBER: MU-008-24", the Bid Date, and Contractor's name, address, and City of Mobile Business License number. And, if bidding in an amount of \$50,000 or greater, the State of Alabama General Contractor's License number and classification of the Bidder issued by the State of Alabama Licensing Board for General Contractors shall be written on the envelope.
- B. Bids shall be deposited at the designated location prior to the time and date for receipt of Bids. Bids received after the time and date specified in the Invitation to Bid, or as modified by Addendum, will not be considered. Late Bids will be returned to the Bidder unopened.
- C. The Bidder shall assume full responsibility for timely delivery at the location designated for receipt of Bids.
- D. Oral, telephonic, facsimile or other electronically transmitted bids will not be considered.

7. MODIFICATION OR WITHDRAWAL OF BIDS:

- A. A Bid may not be modified, withdrawn, or canceled by the Bidder for a period of sixty (60) days following the time and date designated for receipt of bids, and each Bidder so agrees in submitting a Bid.

8. CONSIDERATION AND AWARD OF BIDS:

- A. At the discretion of the City, the properly identified Bids received on time will be publicly opened and will be read aloud.
- B. The City shall have the right to reject any and all Bids. A Bid not accompanied by a required Bid security or a Bid which is in any way incomplete or irregular is subject to rejection.
- C. It is the intent of the City to award a Contract to the lowest qualified Bidder provided the Bid has been submitted in accordance with the requirements of the Bidding Documents and does not exceed the funds available. The City shall have the right to waive informalities and irregularities in a Bid received and to accept the Bid which, in the City's judgment, is in the City's best interest.
- D. The award shall be based on the lowest Total Bid for the Base Bid and any allowances, plus any alternates and/or options that may be accepted, as listed on the Bid Form.

9. PROOF OF COMPETENCY OF BIDDER:

- A. Bidders may be required to furnish evidence satisfactory to the City of Mobile that they have sufficient means and experience in the types of work called for to assure the completion of the Contract in a satisfactory manner.

10. SIGNING OF CONTRACT:

- A. The Standard Agreement between the City of Mobile and the Contractor, included herein, shall serve as the Agreement between the City and the Contractor.
- B. The Bidder to whom the Contract is awarded shall, within ten (10) calendar days of receiving the Contract Forms, properly execute and deliver to the Owner, the following items with the signed Agreement:
  - (1). Performance Bond and Labor and Material Payment Bond (originals);
  - (2). Certificate of Insurance (original) with endorsements to City of Mobile;
  - (3). Evidence of enrollment in the E-Verify program.
  - (4). Other documentation as required by the Contract Documents.
- C. Failure or refusal to sign the Agreement or to provide Certificates of Insurance in a form satisfactory to the City of Mobile, E-Verify verification, or other required documentation, shall subject the Bidder to immediate forfeiture of Bid Security.
- D. On all documents: City of Mobile Business License, the Alabama Secretary of State Business Identity, the Alabama Secretary of State Certificate of Authority (out of state contractors), E-verify documentation, and ACORD Insurance Form, the Contractor's name shall be EXACTLY the same.

11. NONDISCRIMINATION:

- A. Contractor shall comply with all Federal, State and local laws concerning nondiscrimination, including but not limited to City of Mobile Ordinance No. 14-034 which requires, inter alia, that all contractors performing work for the City of Mobile not discriminate on the basis of race, creed, color, national origin or disability, require that all subcontractors they engage do the same, and make every reasonable effort to assure that fifteen percent of the work performed under contract be awarded to socially and economically disadvantaged individuals and business entities.

12. AMERICANS WITH DISABILITIES ACT (ADA):

- A. Bidders shall comply with the provisions of the Americans with Disabilities Act (ADA) of 1990 which prohibits discrimination against individuals with disabilities.

13. USE OF DOMESTIC PRODUCTS:

- A. Section 39-3-1, Alabama Code, 1975, provides that the Contractor agree, in the execution of this Contract, to use materials, supplies and products manufactured, mined, processed or otherwise produced in the United States or its territories, if available at reasonable prices, and that breach of this Agreement by the Contractor shall result in the assessment of liquidated damages in an amount not less than \$500.00 nor more than twenty (20) percent of gross amount of the Contract Price.

14. NON-RESIDENT (OUT OF STATE) CONTRACTORS:

- A. Preference to Resident Contractors: Section 39-3-5, Code of Alabama, 1975, provides that a non-resident (out of State) bidder domiciled in a state which grants a preference to local Contractors is to be awarded a public contract on the same basis as the non-resident bidder's state awards contracts to Alabama bidders. Alabama bidders are given a preference to the same extent that a non-resident bidder receives a preference in his home state. A non-resident bidder must include with any written bid documents a written opinion of an attorney licensed to practice in the non-resident bidder's state declaring what preferences, if any, exists in the non-resident's state.
- B. Certificate of Authority: All non-resident (out of State) bidders shall be registered with the Alabama Secretary of State and the Alabama Department of Revenue prior to submitting a Bid. Provide the Secretary of State Business "Entity ID Number" on the Bid Form in the space provided.

15. ALABAMA IMMIGRATION ACT:

- A. The State of Alabama Immigration Law (Act No. 2011-535 as amended by Act No. 2012-491), requires that Contractors not violate federal immigration law or knowingly employ, hire for employment, or continue to employ an unauthorized alien within the State of Alabama. In addition, Contractors are required to enroll in the federal E-Verify program and submit verification of enrollment to the City of Mobile within ten (10) days of receiving the contract forms (see Section 00600).

16. CITY OF MOBILE BUSINESS LICENSE:

- A. A City of Mobile Business License is required and must be current at time of contract award and throughout contract period.

17. CITY OF MOBILE CONTRACTOR'S BUSINESS LICENSE:

- A. A City of Mobile Contractor's Business License is required and must be current when contractor signs the contract and throughout contract period.
- B. Contractor must qualify and post a \$10,000 surety bond with the Land Use/Code Administration Department before a Contractor's Business License will be issued by the Revenue Department. Information on the City Contractor's License may be obtained by writing or calling:

Land Use/Code Administration  
P.O. Box 1827  
Mobile, Alabama 36633-1827  
Phone: 251-208-7421

Revenue Department  
P.O. Box 1827  
Mobile, Alabama 36633-1827  
Phone: 251-208-7461

18. CITY OF MOBILE BUILDING PERMIT:

- A. City of Mobile Building Permits are required and shall be obtained from the Code Administration Department, but at no cost to the Contractor.
- B. Contractor is responsible for ensuring that all inspections are successfully performed in accordance with City of Mobile regulations.

19. CONSTRUCTION SCHEDULE AND ACCESS:

- A. Equipment required for the project shall be submitted to the engineer for approval within fifteen (15) calendar days of Notice to Proceed. After approved submittals are returned, the equipment shall be ordered within ten (10) days of approval. Work shall be completed within fifteen (15) calendar days from the date of equipment delivery.
- B. At all buildings that will remain in use throughout the Construction period, the Contractor is directed to coordinate all areas of work and scheduling of work with the Owner. Within five days of the bid opening, the Apparent Low Bidder shall meet with the Owner to discuss Owner scheduling and priorities. Apparent Low Bidder shall then provide a proposed schedule within 5 calendar days of the initial meeting for Owner review and approval.
- C. Contractor shall have access to the various buildings between 7:30 am and 5:00 pm or as otherwise scheduled with the Facility Maintenance Staff. Schedules to be discussed at the meeting referenced in part B directly above.
- D. The Contractor may be allowed additional construction days due to inclement conditions ("rain days") only as such are appropriately documented and are in excess of the NOAA/National Weather Service average (previous 5 years) for the given month. A "rain day" is defined as more than a "trace" (0.10") of rain falling within a given 24-hour period. The Contractor shall provide documentation and formally request any "rain days" they feel are legitimately due. Documentation shall be submitted to the Project Manager, in writing, within ten (10) calendar days of the rain event. Claim shall include documentation of trades adversely impacted and the impacted activities of each trade.

20. SITE CONSIDERATIONS:

- A. It is the Contractor's responsibility to carefully remove and store any items not permanently installed within the work areas. It is strongly recommended that the Contractor photograph, videotape or in some manner document any features to be removed and their condition, prior to removal.
- B. Noise and strong smells shall be isolated or kept to a minimum when adjacent portions of the site are occupied.
- C. Contractor shall be responsible to leave the work area and adjacent site clear of equipment and debris, etc. at the end of each workday. All final cleaning is the

responsibility of the Contractor and shall be executed prior to acceptance for reuse of any portion of the site.

- D. A dumpster and lay down area for Contractor materials and staging may be located at the site and located per the direction of the Owner. The Contractor is responsible for the removal of the dumpster, any storage containers and any security fencing, temporary erosion control (BMPs), etc. as soon as practical after their use by the Contractor or the work is complete.

21. SALES AND USE TAX EXEMPTION:

- A. As per the State of Alabama ACT 2013-205, the Alabama Department of Revenue (ADOR) has been granted the authority to issue a “Certificate of Exemption from Sales and Use Tax for Governmental Entities” on construction projects. Therefore, this project shall qualify for State of Alabama Sales and Use Tax Exemptions under this ACT. It is the responsibility of the Bidder to confirm the potential tax-exempt status of their bid with the ADOR and include any such savings in their bid, as well as accounting for same on their bid form attachment Sales Tax Form C-3A.
- B. The full text of ACT 2013-205 is available on the State of Alabama Building Commission website at [www.bc.alabama.gov](http://www.bc.alabama.gov).

22. SUBMISSION OF LIEN WAIVERS AND DBE COMPLIANCE, UTILIZATION REPORTS:

- A. At each monthly Application for Payment submitted to the owner, the Contractor shall provide completed “City of Mobile DBE Compliance, Utilization Reports” and lien waivers, including those from Subcontractors and material suppliers.

23. NOTICE OF COMPLETION:

- A. For Contracts \$50,000 or greater:  
Contractor shall provide proof of publication of Advertisement of Completion for four consecutive weeks in a local newspaper, as required in the Title 39, Section 39-1-1, Subsection (f), of the Code of Alabama. This Advertisement shall not begin until the Project has been accepted by the City of Mobile.
- B. Notice of Completion advertisement shall read as follows:

STATE OF ALABAMA

COUNTY OF MOBILE

NOTICE OF COMPLETION

In accordance with Chapter 1, Title 39, Code of Alabama, 1975, NOTICE IS HEREBY given that (COMPANY NAME) has completed the contract for History Museum of Mobile – HVAC Upgrades – MU-008-24, 111 S Royal Street, Mobile, Alabama 36602. All persons having any claims for labor, material or otherwise in connection with this project should immediately notify the Architectural

History Museum of Mobile  
HVAC Upgrades  
MU-008-24

Engineering Department, City of Mobile, P.O. Box 1827, Mobile, Alabama 36633-1827.

- C. Advertisement shall not begin until the Project has been accepted by the City of Mobile as Substantially Complete.

24. CONTRACTOR WARRANTY AND CERTIFICATION:

- A. Upon completion of the contract, the Contractor shall certify under oath that all bills have been paid in full.
- B. Contractor shall provide a ten (10) year Labor and Materials Warranty on company letterhead in addition to other warranties required by the Bid Documents.

25. LIQUIDATED DAMAGES

- A. A time charge equal to Two Hundred Fifty Dollars (\$250.00) per calendar day will be made against the Contractor for the entire period that any part of the Work remains uncompleted, or any required closeout documents are not acceptably submitted, for more than thirty (30) calendar days after the time specified for the Substantial Completion for the Work, the amount of which shall be deducted by the owner, and shall be retained by the Owner out of monies otherwise due the Contractor in the final payment, not as a penalty, but as liquidated damages sustained.

**END OF SECTION**

History Museum of Mobile  
Chiller Replacement  
MU-013-24

SECTION 00400

BID FORM

Copies of the following Bid Forms shall be used. Bids submitted on alternate forms may be rejected. Fill in all blank spaces with an appropriate entry. Bid Form must be signed by an officer of the company and notarized.

**TO: City of Mobile, 205 Government St., P.O. Box 1827, Mobile, AL, 36633**

**REF: PROJECT NO.: MU-008-24**  
**PROJECT NAME: History Museum of Mobile**  
**- HVAC Upgrades**  
**PROJECT LOCATION: 111 S Royal Street**  
**Mobile, Alabama, 36602**

In compliance with the Bid Documents and having carefully and thoroughly examined said documents for the subject Work prepared by the City of Mobile, Architectural Engineering Department and Jaguar Consulting, LLC dated October 23, 2024; and all Addendum (a) Number(s) \_\_\_\_\_, dated \_\_\_\_\_, 2024 (CAUTION: before submitting any bid it is the Bidder's responsibility to check with the Architectural Engineering Department for all Addenda or special instructions that may impact the Bid) thereto, receipt of which is hereby acknowledged, the premises and all conditions affecting the Work prior to making this Proposal, the Undersigned Bidder, hereby

**COMPANY NAME:** \_\_\_\_\_

**ADDRESS:** \_\_\_\_\_ **PHONE** \_\_\_\_\_

**ALABAMA GENERAL CONTRACTOR LICENSE NO.** \_\_\_\_\_

**CITY OF MOBILE BUSINESS LICENSE NO.** \_\_\_\_\_

**SECRETARY OF STATE OF ALABAMA BUSINESS IDENTITY NO.** \_\_\_\_\_

**SECRETARY OF STATE OF ALABAMA ACCOUNT NO.** \_\_\_\_\_

(Note: Secretary of State Account Number shall be filled in only by non-resident bidders)

(Check one)  A Corporation  A Partnership  An Individual Doing Business

hereby proposes to furnish all labor, materials, tools, equipment, and supplies and to sustain all the expenses incurred in performing the Work on the above captioned Project in accordance with the terms of the Contract Documents, and all applicable laws and regulations for the sum listed below. The initial term of the Contract shall extend for approximately two hundred (200) calendar days from the date of the Notice to Proceed.

**Base Bid:** \$ \_\_\_\_\_ .00

**Contingency Allowance:** + \$ 25,000.00

**Total Base Bid:** \$ \_\_\_\_\_ .00

(Fill in here and in Total Bid below)

**TOTAL BASE BID:** \_\_\_\_\_

\_\_\_\_\_ Dollars, (\$ \_\_\_\_\_ .00)

(Amount in Words)

(Amount in Figures)

**Additive Alternate #1:** Replace the boiler specified in the attached drawings and specifications provided by the consultant in the project manual.

\_\_\_\_\_ Dollars, (\$ \_\_\_\_\_ .00)

(Amount in Words)

(Amount in Figures)

(Note: Show amount in both words and figures. In case of discrepancy, the amount in words shall govern). **Bids shall be provided in whole dollar amount with no cents.**

**CONTINGENCY ALLOWANCE:** \$25,000.00 lump sum Contingency Allowance shall be included in the Total Bid for work related to unforeseen conditions as approved by the Owner.

**BID SECURITY:** The undersigned Bidder agrees that the attached Bid Security, as a Cashier's Check drawn on a bank registered to do business in the State of Alabama and which is a member of the Federal Deposit Insurance Corporation, or a Bid Bond, made payable to the City of Mobile, in the amount of 5% of the bid amount, but in no event more than \$10,000.00, as the proper measure of liquidated damages which the City will sustain by the failure of the undersigned to execute the Contract. Said Bid Security shall become the property of the City of Mobile as liquidated damages as specified in the Contract Documents.

**AMERICANS WITH DISABILITIES ACT (ADA):** The undersigned Bidder agrees to fully comply with all requirements of the Americans with Disabilities Act of 1990 and the Amendment Act.

**NONDISCRIMINATION:** Contractor shall comply with all Federal, State and local laws concerning nondiscrimination, including but not limited to City of Mobile Ordinance No. 14-034 which requires, *inter alia*, that all contractors performing work for the City of Mobile not discriminate on the basis of race, creed, color, national origin or disability, require that all subcontractors they engage do the same, and make every reasonable effort to assure that fifteen percent of the



History Museum of Mobile  
Chiller Replacement  
MU-013-24

work performed under contract be awarded to socially and economically disadvantaged individuals and business entities.

**SIGNATURE:** If the undersigned Bidder is incorporated, the entire legal title of the company followed by "a corporation" should be used. If Bidder is an individual, then that individual's full legal name followed by doing business as (d/b/a) and name of firm, if any, should be used. If Bidder is a partnership, then full name of each partner should be listed followed by "d/b/a" and name of firm, if any.

Ensure that name and exact arrangement thereof is the same on all forms submitted with this Bid. If a word is abbreviated in the official company name, such as "Co.", then use that abbreviation. If not abbreviated in the official name, spell out.

Bidder agrees not to revoke or withdraw this Bid until sixty (60) calendar days following the time and date for receipt of bids. If notified in writing of the acceptance of this Bid within this time period, Bidder agrees to execute a Contract based on this Bid on the proscribed form within ten (10) calendar days of said notification and to furnish Performance Bond and Materials and Payment Bond as specified.

**COMPANY NAME:** \_\_\_\_\_  
(Printed or Typed)

**BY:** \_\_\_\_\_  
(Signature of Company Officer)

**COMPANY OFFICER:** \_\_\_\_\_  
(Printed or Typed)

**TITLE** \_\_\_\_\_ **DATE** \_\_\_\_\_, 2024  
(Printed or Typed)

Sworn to and subscribed before me this \_\_\_\_\_ day of \_\_\_\_\_ 2024

\_\_\_\_\_  
Notary Public

- Attachments: 1. Bid Security, with Power of Attorney  
2. Secretary of State Authorization (Out of state bidders only)  
3. Sales Tax Form C-3A  
4. Supplier Diversity Subcontracting & Major Supplier Plan

**END OF BID FORM**

**ACCOUNTING OF SALES TAX  
ATTACHMENT TO BID FORM SECTION 00400  
SALES TAX FORM C-3A**

To: City of Mobile

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

Name of Project: History Museum of Mobile – HVAC Upgrades

Project Number: MU-008-24

**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

**BASE BID:**

\$ \_\_\_\_\_

**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)** \_\_\_\_\_

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

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

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



OFFICE OF SUPPLIER DIVERSITY  
**CITY OF MOBILE**  
Subcontracting and Major Supplier Plan

Contact Office of Supplier Diversity for  
questions on completing this form.  
Via email: Archnique.kidd@cityofmobile.org  
251.208.7967  
205 Government Street, 5<sup>th</sup> Floor

**Bidders and Proposers – Please complete and submit these forms as required by your City of Mobile Bid or Proposal Specification.**

If you are submitting a proposal in response to a Request for Qualifications, Request for Proposal, or other solicitation (“Solicitations”) issued by the City of Mobile, the bid specification may require you to utilize disadvantaged business enterprise (“DBE”) subcontractors and suppliers. If DBE participation is required, you must complete and submit these forms with your proposal. If required, failure to submit this form will render your bid non-responsive. NOTE: To satisfy participation requirements for a federally funded project, you must utilize DBEs certified through the Alabama Unified Certification Program.

If DBE participation is required, and you fail to satisfy the participation requirement, you must show that you made a good faith effort to include such participation; you will be required to submit DBE Compliance Form 2 and include additional information if needed. When so required, failure to address adequately the good faith effort factors on Form 2 will render your bid or proposal non-responsive. The “good faith effort” factors on Form 2 are not intended to be a mandatory, exhaustive, or exclusive.

You are encouraged to work with the City of Mobile Supplier Diversity Manager when preparing this form. Please consult with the City Supplier Diversity Manager for a list of eligible DBEs. The “good faith effort” factors on **Form 2** are not intended to be mandatory, exhaustive, or exclusive; they are a tool to help you, and the City of Mobile, determine whether you made efforts which, by their scope, intensity, and appropriateness to the objective, would reasonably be expected to fulfill the participation requirement.

About “**DBEs**”: Disadvantaged business enterprise or DBE means a for-profit small business concern (1) That is at least 51 percent owned by one or more individuals who are both socially and economically disadvantaged or, in the case of a corporation, in which 51 percent of the stock is owned by one or more such individuals; and (2) whose management and daily business operations are controlled by one or more of the socially and economically disadvantaged individuals who own it.

About “**Good Faith**” **Effort**: Good faith efforts means efforts to achieve a DBE goal or other requirement of this part which, by their scope, intensity, and appropriateness to the objective, can reasonably be expected to fulfill the program requirement. The City of Mobile expects contractors holding large contracts to recruit and engage DBEs to be a part of their team.

Failure to submit this form, when so required by the bid or proposal specification, will render your bid non-responsive.



OFFICE OF SUPPLIER DIVERSITY  
**CITY OF MOBILE**  
Subcontracting and Major Supplier Plan

Contact Office of Supplier Diversity for  
questions on completing this form.  
Via email: Archnique.kidd@cityofmobile.org  
251.208.7967  
205 Government Street, 5<sup>th</sup> Floor

**FORM 1: Background and Plan**

**Section I. Information about your company**

Company	
Address	
Telephone	
E-Mail	

RFP/RFQ Solicitation Number	
Project Description	
Is your company a DBE company?	Yes <input type="checkbox"/> No <input type="checkbox"/>
Work force demographics	Male _____ Female _____ Minority _____ Non-minority _____ SDVO _____ Total #of Employees _____

**Subcontractor/Major Supplier Plan submitted by:**

Printed Name: \_\_\_\_\_

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

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

The following employee will be designated as the **DBE Liaison** for all communication regarding DBE participation including documentation for DBE participation and maintenance of records of Good Faith Efforts for this contract award:

Name: \_\_\_\_\_ Title: \_\_\_\_\_

Email: \_\_\_\_\_ Phone: \_\_\_\_\_





OFFICE OF SUPPLIER DIVERSITY  
**CITY OF MOBILE**  
 Subcontracting and Major Supplier Plan

**Form 2: Good Faith Effort Documentation**

Name of Bidder: \_\_\_\_\_

Contact Person: \_\_\_\_\_ Phone \_\_\_\_\_ Email \_\_\_\_\_

Please complete this form if you are unable to identify DBE subcontractors or suppliers to reach 15% of the value of your bid.

YES ( <input type="checkbox"/> )	NO ( <input type="checkbox"/> )	<b>Did you do these suggested areas for DBE recruitment and engagement</b>
		<b>PRE-BID MEETING(S):</b> The bidder attended all pre-bid meetings scheduled by the City to inform DBEs of contracting and subcontracting opportunities.
		<b>CMDBE/ALDOT DBE LIST(S):</b> The bidder utilized the Office of Supplier Diversity's list or lists of certified through the Alabama Department of Transportation UCP DBE Listing
		<b>SMALL CONTRACT(S):</b> The bidder selected specific portions of the work to be performed by DBEs in order to increase the likelihood of meeting the DBE goals (including breaking down contracts into smaller units to facilitate DBE participation). Consider support services, including insurance, accounting, temporary labor, and transportation, landscaping, and janitorial as potential areas for DBE use.
		<b>FOLLOW-UP:</b> The bidder followed-up initial indications of interest by DBEs by contacting those DBEs to determine with certainty if they remained interested in bidding.
		<b>GOOD FAITH NEGOTIATIONS:</b> The bidder negotiated in good faith with interested DBEs and did not reject DBEs as unqualified without sound business reasons based on a thorough investigation of their capabilities. Bidders are not expected to engage unqualified subcontractors or subcontractors whose pricing, after negotiation, remains excessive or unreasonable. (Please document qualification deficiencies or unreasonable pricing if it prevented your engagement of specific DBE subcontractors.)
		<b>ADVERTISEMENT:</b> The bidder advertised in general circulation and/or trade association publications concerning subcontracting opportunities and allowed DBEs reasonable time to respond.
		<b>INTERNET ADVERTISING:</b> The bidder advertised DBE and/or subcontracting opportunities in the newspaper or other internet portals that are accessible to DBEs and/or potential subcontractors.



OFFICE OF SUPPLIER DIVERSITY  
**CITY OF MOBILE**  
Subcontracting and Major Supplier Plan

		<b>INFORMATION:</b> The bidder provided interested DBEs with adequate information about the plans, specifications and requirements of the subcontract.
		<b>WRITTEN NOTICE(S):</b> The bidder/proposer took the necessary steps to provide written notice in a manner reasonably calculated to inform DBEs of subcontracting opportunities and allowed sufficient time for them to participate effectively.
		<b>COMMUNITY RESOURCES:</b> The bidder/proposer used the services of available community organizations, small and/or disadvantaged business assistance offices and other organizations that provided assistance in the recruitment and placement of DBE firms.

**CONTRACT RECORDS:**

The bidder/proposer has maintained the following records for each DBE that has bid on the subcontracting opportunity:

1. Name, address, email address and telephone number
2. A description of information provided by the bidder/proposer or subcontractor; and
3. A statement of whether an agreement was reached, and if not, why not, including any reasons for concluding that the DBE was unqualified to perform the job.

**Section 2(B)**

\_\_\_\_\_ There are not ways to break out 15% of the value of this contract for subcontractors / suppliers. Provide further detail in Section 2(c) if the inability to break-out 15% of the value of the contract was the reason, or a reason, you could not meet the participation requirements.

\_\_\_\_\_ Could not find sufficient DBEs to provide subcontracting or supplier services.

\_\_\_\_\_ DBEs were available but did not have sufficient qualifications or experience to meet the needs of this contract.

Please indicate additional efforts you have taken to recruit and engage DBEs. \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

SECTION 00500

STANDARD FORM OF AGREEMENT BETWEEN OWNER AND CONTRACTOR

**PART 1 GENERAL**

- A. This section includes the STANDARD FORM OF AGREEMENT BETWEEN OWNER and CONTRACTOR, AIA Document A101, wherein the basis of payment is a Stipulated Sum; the document has been electronically modified to meet the Owner's requirements and shall be used for the Project.



# DRAFT AIA® Document A101® – 2017

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

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

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

«City of Mobile »« »  
«P.O. Box 1827 »  
«Mobile, Alabama 36633-1827 »  
« »

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

«Contractor company name »  
« Contractor company Address »  
« »  
« City of Mobile Business License Number: »  
«Secretary of State Registration Number: »

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

«History Museum of Mobile – HVAC Upgrades »  
« 111 S Royal Street, Mobile, AL 36602 »  
«Replacing one chiller with a Boiler as an alternate at the History Museum of Mobile»

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

« »  
«Architectural Engineering Department »  
«P.O. Box 1827 »  
«Mobile, Alabama 36633-182702 »  
« Jaguar Consulting, LLC  
8658 Capital Drive  
Mobile, al 36695 »

The Owner and Contractor agree as follows.

**ADDITIONS AND DELETIONS:**  
The author of this document has added information needed for its completion. The author may also have revised the text of the original AIA standard form. An *Additions and Deletions Report* that notes added information as well as revisions to the standard form text is available from the author and should be reviewed.

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

The parties should complete A101®-2017, Exhibit A, Insurance and Bonds, contemporaneously with this Agreement. AIA Document A201®-2017, General Conditions of the Contract for Construction, is adopted in this document by reference. Do not use with other general conditions unless this document is modified.



**ELECTRONIC COPYING** of any portion of this AIA® Document to another electronic file is prohibited and constitutes a violation of copyright laws as set forth in the footer of this document.

## TABLE OF ARTICLES

1	THE CONTRACT DOCUMENTS
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### ARTICLE 1 THE CONTRACT DOCUMENTS

The Contract Documents consist of this Agreement, Conditions of the Contract (General, Supplementary, and other Conditions), Drawings, Specifications, Addenda issued prior to execution of this Agreement, other documents listed in this Agreement, and Modifications issued after execution of this Agreement, all of which form the Contract, and are as fully a part of the Contract as if attached to this Agreement or repeated herein. The Contract represents the entire and integrated agreement between the parties hereto and supersedes prior negotiations, representations, or agreements, either written or oral. An enumeration of the Contract Documents, other than a Modification, appears in Article 9.

### ARTICLE 2 THE WORK OF THIS CONTRACT

The Contractor shall fully execute the Work described in the Contract Documents, except as specifically indicated in the Contract Documents to be the responsibility of others.

### ARTICLE 3 DATE OF COMMENCEMENT AND SUBSTANTIAL COMPLETION

§ 3.1 The date of commencement of the Work shall be:  
(Check one of the following boxes.)

[  ] A date set forth in a notice to proceed issued by the Owner.

§ 3.2 The Contract Time shall be measured from the date of commencement of the Work.

#### § 3.3 Substantial Completion

§ 3.3.1 Subject to adjustments of the Contract Time as provided in the Contract Documents, the Contractor shall achieve Substantial Completion of the entire Work:  
(Check one of the following boxes and complete the necessary information.)

[  ] Not later than  (  ) calendar days from the date of the Notice to Proceed for commencement of the Work.

§ 3.3.2 If the Contractor fails to achieve Substantial Completion as provided in this Section 3.3, liquidated damages, if any, shall be assessed as set forth in Section 4.5.

### ARTICLE 4 CONTRACT SUM

§ 4.1 The Owner shall pay the Contractor the Contract Sum in current funds for the Contractor's performance of the Contract. The Contract Sum shall be  "and 00/100" (\$  ), subject to additions and deductions as provided in the Contract Documents.

Base Bid:

Contingency Allowance: \$25,000.00

Total Bid:

Alternate:

Total Contract Sum:

**§ 4.2 Alternates**

**§ 4.2.1** Alternates, if any, included in the Contract Sum:

Item	Price
#1. Replace Boiler per Consultant's specifications and drawings	

**§ 4.3** Allowances, if any, included in the Contract Sum:

*(Identify each allowance.)*

Contingency Allowance: « Twenty Five Thousand "and 00/100" » ( «\$ 25,000.00 » )

- A. Contingency Allowance shall cover the cost of material, labor, overhead, profit and other expenses for complete installation of items of additional work as required for a complete, functional project.
- B. Contingency Allowance shall be used for unforeseen conditions not covered in the construction documents.
- C. All extra work under this section must be authorized by the Owner, in writing, prior to materials or undertaking work.
- D. Upon completion of the Work, the unused portion of the Allowance shall be credited back to the Owner in the form of a Change Order.
- E. Allowances are subject to the same provision of AIA 201 Article 7.3.7.

**§ 4.4** Unit prices, if any:

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

Item	Units and Limitations	Price per Unit (\$0.00)
N/A		

**§ 4.5** Liquidated damages:

*(Insert terms and conditions for liquidated damages, if any.)*

« A time charge equal to Two Hundred Fifty and 00/100 Dollars (\$250.00) per calendar day will be made against the Contractor for the entire period that any part of the Work remains uncompleted or any required closeouts documents are not acceptably submitted for more than thirty (30) days after the date specified for the substantial Completion of the Work, the amount of which shall be deducted by the owner, and shall be retained by the Owner out of monies otherwise due the Contractor in the final payment, not as a penalty, but as liquidated damages sustained. »

**ARTICLE 5 PAYMENTS**

**§ 5.1 Progress Payments**

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

**§ 5.1.2** The period covered by each Application for Payment shall be one calendar month ending on the 25<sup>th</sup> of the month.

**§ 5.1.3** Provided that an Application for Payment in acceptable format is received by the Architect not later than the first «1<sup>st</sup>» day of a month, the Owner shall make payment of the amount certified to the Contractor not later than the tenth «10<sup>th</sup>» day of the «following» month. If an Application for Payment in acceptable format is received by the Architect after the application date fixed above, payment of the amount certified shall be made by the Owner not later than «Forty» («40») days after the Architect receives the Application for Payment.

*(Federal, state or local laws may require payment within a certain period of time.)*

§ 5.1.4 Each Application for Payment shall be based on the most recent schedule of values submitted by the Contractor in accordance with the Contract Documents. The schedule of values shall allocate the entire Contract Sum among the various portions of the Work. The schedule of values shall be prepared in such form, and supported by such data to substantiate its accuracy, as the Architect may require. This accepted schedule of values shall be used as a basis for reviewing the Contractor's Applications for Payment.

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

§ 5.1.6 In accordance with AIA Document A201, General Conditions of the Contract for Construction (including Owner's then current Modifications), and subject to other provisions of the Contract Documents, the amount of each progress payment shall be computed as follows:

§ 5.1.6.1 The amount of each progress payment shall first include:

- .1 That portion of the Contract Sum properly allocable to completed Work;
- .2 That portion of the Contract Sum properly allocable to materials and equipment delivered and suitably stored at the site for subsequent incorporation in the completed construction, or, if approved in advance by the Owner, suitably stored off the site at a location agreed upon in writing and insured as specified.
- .3 Completed work shall be determined by multiplying the percentage completion of each portion of the Work by the share of the Contract Sum allocated to that portion of the Work in the schedule of values.

§ 5.1.6.2 The amount of each progress payment shall then be reduced by:

- .1 The aggregate of any amounts previously paid by the Owner;
- .2 The amount, if any, for Work that remains uncorrected and for which the Architect has previously withheld a Certificate for Payment as provided in Article 9 of AIA Document A201-2017;
- .3 Any amount for which the Contractor does not intend to pay a Subcontractor or material supplier, unless the Work has been performed by others the Contractor intends to pay;
- .4 For Work performed or defects discovered since the last payment application, any amount for which the Architect may withhold payment, or nullify a Certificate of Payment in whole or in part, as provided in Article 9 of AIA Document A201-2017; and
- .5 Retainage withheld pursuant to Section 5.1.7.

§ 5.1.6.3 Any Progress Payment shall include partial release of liens for material and labor for previous application for payment amount approved and paid. The DBE Utilization Report shall be included with the pay application.

### § 5.1.7 Retainage

§ 5.1.7.1 For each progress payment made prior to Substantial Completion of the Work, the Owner may withhold the following amount, as retainage, from the payment otherwise due:

*(Insert a percentage or amount to be withheld as retainage from each Application for Payment. The amount of retainage may be limited by governing law.)*

«Five percent (5%) of the first fifty percent (50%) of the completed work and after fifty percent (50%) completion has been accomplished, no further retainage shall be held from the original Contract Sum. Increases in the contract sum by Change Order shall also be subject to retainage. »

§ 5.1.7.1.1 The following items are not subject to retainage:

*(Insert any items not subject to the withholding of retainage, such as general conditions, insurance, etc.)*

«N/A »

§ 5.1.7.2 Except as set forth in this Section 5.1.7.3, upon Substantial Completion of the Work, the Contractor may submit an Application for Payment that includes the retainage withheld from prior Applications for Payment pursuant to this Section 5.1.7. The Application for Payment submitted at Substantial Completion shall not include retainage as follows:

*(Insert any other conditions for release of retainage upon Substantial Completion.)*

«The net amount of the Retainage shall be equal to two and one half percent (2.5%) of total Contract Sum, as increased or decreased by Change Order. »

§ 5.1.8 If final completion of the Work is materially delayed through no fault of the Contractor, the Owner shall pay the Contractor any additional amounts in accordance with Article 9 of AIA Document A201–2017.

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

**§ 5.2 Final Payment**

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

- .1 the Contractor has fully performed the Contract except for the Contractor’s responsibility to correct Work as provided in Article 12 of AIA Document A201 (including Owner’s then-current modifications which may be obtained from the Owner or, alternatively, a copy of which is incorporated in the Project Manual and incorporated by reference herein as a part thereof), and to satisfy other requirements, if any, which extend beyond final payment; and
- .2 a Certificate of Substantial Completion has been issued by the Architect/Owner and the project accepted.

§ 5.2.2 The Owner’s final payment to the Contractor of retainage shall be made as follows:

« The final two and one half percent (2.5%) of the total Contract Sum retained will not be paid until proof of publication is submitted and all written claims paid in full. Contractor to submit the following:

- Contractor’s Affidavit of Payment of Debts and Claims (AIA form G706, included in contract documents) with
  - a.) Contractor’s Release or Waiver of Liens
  - b.) Releases or Waivers of Liens from Subcontractors and Material and Equipment Suppliers;
- Contractor’s Affidavit of Release of Liens (AIA form G706A, included in contract documents);
- Consent of Surety, if any, to final payment (AIA form G707, included in contract documents);
- Any additional close out requirements per the contract documents; and
- Notarized Affidavit of Notice of Completion advertisement from publisher.

Contractor shall provide proof of publication of Notice of Completion in a local newspaper once per week for four (4) consecutive weeks, as required in the Title 39, Section 39-1-1, Subsection (f), of the Code of Alabama quoted below. “The Contractor shall, immediately after the completion of the contract, give notice of Completion by an advertisement in a newspaper of general circulation published within the city or county in which the work has been done, for a period of four (4) consecutive weeks. A final settlement shall not be made upon the contract until the expiration of thirty (30) days after the completion of the notice. Proof of publication of the notice shall be made by the contractor to the authority by whom the contract was made by affidavit of the publisher and a printed copy of the notice published. If no newspaper is published in the county in which the work is done, the notice may be given by the contract.” (Acts 1927, No. 39, 9.37; Acts 1935, No. 39, 9. 70; Code 1940, T. 50, Section 16; Acts 1983, No. 83-737, 9.1203; Acts 1989, No. 89-650m 9. 1284, Section 1; Acts 1994, No. 94-207, p, 270, Section 1; Acts 1997, No. 97-225, p. 348, Section 1.)

The Notice of Completion shall read as follows:

STATE OF ALABAMA  
COUNTY OF MOBILE  
NOTICE OF COMPLETION

In accordance with Chapter I, Title 39, Code of Alabama, 1975, NOTICE IS HEREBY given that <contractor name> has completed the contract for <MU-013-24, History Museum of Mobile – Chiller Replacement > All persons having any claims for labor, material or otherwise in connection with this project should immediately notify the Architectural Engineering Department, City of Mobile, P. O. Box 1827, Mobile, Alabama 36633-1827.

Publication of the Notice of Completion shall not begin until the Project has been accepted as Substantially Complete by the City of Mobile.

»

**ARTICLE 6 DISPUTE RESOLUTION**

**§ 6.1 Initial Decision Maker**

The Engineer will serve as the Initial Decision Maker pursuant to Article 15 of AIA Document A201, unless the parties appoint below another individual, not a party to this Agreement, to serve as the Initial Decision Maker. (If the parties mutually agree, insert the name, address and other contact information of the Initial Decision Maker, if other than the Architect.)

«N/A »

**§ 6.2 Binding Dispute Resolution**

For any Claim, the method of binding dispute resolution shall be as follows: (Check the appropriate box.)

[  ] Litigation in a court of competent jurisdiction

**§ 6.3 Governing Law and Venue**

This Agreement shall be governed by the laws of the State of Alabama, and the appropriate venue of any actions arising out of this Agreement shall be a court of proper jurisdiction in Mobile, Alabama.

**ARTICLE 7 TERMINATION OR SUSPENSION**

**§ 7.1** The Contract may be terminated by the Owner or the Contractor as provided in Article 14 of AIA Document A201, General Conditions of the Contract for Construction, including Owner’s then-current modifications, a copy of which is incorporated in the contract documents and incorporated by reference herein as a part thereof.

**§ 7.2** The Work may be suspended by the Owner as provided in Article 14 of AIA Document A201, General Conditions of the Contract for Construction, including Owner’s then-current modifications, a copy of which is incorporated in the contract documents and incorporated by reference herein as a part thereof.

**ARTICLE 8 MISCELLANEOUS PROVISIONS**

**§ 8.1** Where reference is made in this Agreement to a provision of AIA Document A201 or another Contract Document, the reference refers to that provision as amended or supplemented by other provisions of the Contract Documents. A copy of such amended, revised or supplemental provision is incorporated in the contract documents and hereby incorporated by reference herein as a part thereof.

**§ 8.2** The Owner’s representative: (Name, address, email address, and other information)

«Director, REAM»  
«P.O. Box 1827»  
«Mobile, Alabama 36633-1827 »

**§ 8.3** The Contractor’s representative: (Name, address, email address, and other information)

« name »  
« address »  
« email »  
« other »

**§ 8.4** Neither the Owner’s nor the Contractor’s representative shall be changed without ten (10) days’ prior notice to the other party.

**§ 8.5 Insurance and Bonds**

**§ 8.5.1** The Owner and the Contractor shall purchase and maintain insurance as set forth below: The Contractor shall purchase and maintain from a company or companies lawfully authorized to do business in the jurisdiction in which the Project is located such insurance as will protect the Contractor from claims set forth below

which may arise out of or result from the Contractor's operations be by the Contractor or by a Subcontractor or by anyone directly or indirectly employed by any of them, or by anyone for whose acts any of them may be liable:

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

The Contractor shall take out and maintain during the life of the Contract no less than the following amounts of insurance with the City of Mobile named as an additional insured. Contractor shall submit a Certificate of Insurance. Insurance companies listed as the "Companies Affording Coverage" shall be authorized by the Secretary of the State of Alabama. Insurance produced out of the State of Alabama must be signed or counter signed by a licensed Agent of Alabama, with the Agent's name, address and telephone number typed or printed on the face of the Certificate of Insurance.

- .1 Workmen's Compensation Insurance: - Statutory-amount and coverage as required by all applicable laws, rules or regulations of the State of Alabama and the United States of America,
- .2 Employee's Liability Insurance shall be provided for limits of liability not less than:
  - A. Bodily Injury by Accident \$1,000,000 each accident
  - B. Bodily Injury by Disease \$1,000,000 each employee
  - C. Bodily Injury by Disease \$1,000,000 each policy
- .3 The Contractor shall provide Broad Form (commonly termed Comprehensive) General Liability Insurance (including premises-product-completed operations, independent contractors, and blanket contractual liability), specifically covering the obligations assumed by the Contractor for limits of liability not less than:
  - A. Bodily Injury \$1,000,000 each person  
\$1,000,000 each occurrence
  - B. Property Damage \$1,000,000 each occurrence; or
  - C. Bodily Injury and Property Damage \$1,000,000 combined single limit
  - D. Damage to Rented Premises \$1,000,000 each occurrence
- .4 Such comprehensive policy shall include the following:
  - A. All liability of the Contractor, for the Contractor's Direct Operations.
  - B. Subcontractor's Operations.
  - C. Completed Operations Cover, thereby meaning any loss which shall occur after the contract has been completed, but which can be traced back to the Contract.
  - D. General Aggregate Limit of \$2,000,000 shall apply on a "Per Project" Basis.
  - E. Contractual Liability, meaning thereby; any risk assumed by the Contractor under Hold Harmless Agreements or any other assumption of liability, but specifically items 11.1.1.8.3G herein below

- F. Broad Form Property Damage Coverage, including Completed Operations.
- G. Personal Injury Liability, with employee's exclusions removed.
- H. Explosion and Collapse Hazard:  
Included or  Not Applicable.
- I. Underground Hazard:  
Included or  Not Applicable.

.5 The Contractor shall carry for himself and shall require that all Subcontractors and all Owners of Automobiles or trucks rented or hired on the contract carry, until the Contract is completed, Comprehensive Automobile Liability Coverage for Bodily Injury and property. Damage for any auto in amounts not less than the minimum amounts as indicated. The Contractor and Subcontractor shall also carry for themselves insurance for all non-owned and hired automobile at the limits of liability as indicated below:

- A. Bodily Injury \$1,000,000 each person  
\$1,000,000 each occurrence
- B. Property damage \$1,000,000 each occurrence; or,
- C. Bodily Injury and Property damage \$1,000,000 combined single limit

.6 Umbrella/Excess Liability: <\$2,000,000 combined single limit each occurrence for bodily injury and/or property damage>

.7 Builder's Risk Coverage (Property Insurance): The Contractor shall carry for the Owner, himself, and all Subcontractors a Builder's Risk Policy to cover the full amount of the Contract during construction, fabrication or erection of any equipment.

- A. The Contractor shall purchase and maintain, in a company or companies lawfully authorized to do business in the jurisdiction in which the Project is located, property insurance written on a builder's risk "all-risk" or equivalent policy form in the amount of the initial Contract Sum, plus value of subsequent Contract Modifications and cost of materials supplied or installed by others, comprising total value for the entire Project at the site on a replacement cost basis. Such property insurance shall be maintained, unless otherwise provided in the Contract Documents or otherwise agreed in writing by all persons and entities who are beneficiaries of such insurance, until final payment has been made as provided in Section 9.10 or until no person or entity other than the Owner has an insurable interest in the property, whichever is later. This insurance shall include interests of the Owner, the Contractor, Subcontractors, Sub-subcontractors, and the Design Professionals in the Project.
- B. Property insurance shall be on an "all-risk" or equivalent policy form and shall include, without limitation, insurance against the perils of fire (with extended coverage) and physical loss or damage including, without duplication of coverage, theft, vandalism, malicious mischief, collapse, windstorm, falsework, testing and startup, temporary buildings and debris removal including demolition occasioned by enforcement of any applicable legal requirements, and shall cover reasonable compensation for Architect's and Contractor's services and expenses required as a result of such insured loss.
- C. If the property insurance requires deductibles, the Contractor shall pay costs not covered because of such deductibles. Deductibles shall be limited to a maximum of \$2,500.00 unless the loss is caused by windstorm; then deductible shall be a maximum of three percent (3%) of the insured value.
- D. This property insurance shall cover the full value of equipment, material, and other portions of the Work stored off the site, and also portions of the Work in transit. There shall be no limits on the value of loss per occurrence.



- E. A named storm endorsement is required. The deductible shall be a maximum of three percent (3%) of the insured value.
- .8 A Surety authorized to do business in the State of Alabama shall furnish the required Insurance.
- .9 The standard ACORD™ format shall be provided. The ACORD™ Certificate must be signed or countersigned by a Licensed Resident Agent of the State of Alabama and the agent's name, address and telephone number must appear on the face of the certificate.
- .10 The Surety must have a minimum rating of A/Class VI as reported in the latest issue of Best's Key Rating Guide Property-Casualty, published by Alfred M. Best Company, Inc. if the bid price exceeds \$50,000.00.

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

Certificates of insurance acceptable to the Owner shall be filed with the Owner within ten (10) calendar days from date of issuance of contract forms for execution. Contractor shall deliver to the City of Mobile, certificates of insurance certifying the existence and limits of the insurance coverages along with separate policy endorsements. Contractor shall also be responsible for delivering policy renewal certificates to the City of Mobile, and thereafter upon renewal or replacement of each required policy of insurance. These certificates and the insurance policies shall contain a provision that coverages afforded under the policies will not be cancelled subject to non-renewal nor material change, or allowed to expire without at least thirty (30) days' (except ten (10) days from non-payment) prior written notice has been given to the Owner. An additional certificate evidencing continuation of liability coverage, including coverage for completed operations, shall be submitted with the final Application for Payment and thereafter upon renewal or replacement of such coverage until the expiration of the time. Information concerning reduction of coverage on account of revised limits or claims paid under the General Aggregate, or both, shall be furnished by the Contractor with reasonable promptness.

All policies of insurance, except worker's compensation, shall be endorsed to provide that all such insurances are primary and non-contributing with any other insurance maintained by the City of Mobile and endorsed to waive rights of subrogation in favor of the City of Mobile.

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

**§ 8.5.2** The Contractor shall provide bonds as set forth below:

Contractor shall furnish bonds covering faithful performance of the Contract and payment of obligations arising thereunder.

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

The Labor and Material Payment Bond and the Performance Bond shall each be for one hundred percent (100%) of the Contract Sum.

1. Bond shall be submitted with the executed agreement on provided form(s).
2. Power of Attorney is required for both bonds.

3. A Surety authorized to do business in the State of Alabama shall furnish both bonds.
4. A Surety licensed to do business in the State of Alabama must execute the bonds.
5. The Surety must have a minimum rating of A/Class VI as reported in the latest issue of Best's Key Rating Guide Property-Casualty, published by Alfred M. Best Company, Inc., if the bid price exceeds \$50,000.00.
6. The Surety company shall be required to execute AIA Document G-707, "Consent of Surety to Final Payment" prior to Final Payment being made to the Contractor.

**§ 8.6 Indemnification:**

Contractor shall indemnify, defend and hold harmless City and its officers, elected officials, agents, representatives, and employees in respect of any and all claims, injuries, losses, diminution in value, damages, liabilities, whether or not currently due, and related expenses (including without limitation, settlement costs and any legal or other expenses for investigating or defending any actions or threatened actions) arising from or in connection with Contractor's performance under this agreement, including but not limited to, environmental laws, regulations, orders and decrees of whatever character or nature and damage or injury to persons or property. Contractor hereby confirms and agrees that Contractor is not a 'design professional' as defined in Alabama Act 2021-318, and not required to carry professional liability insurance for the performance or obligations of this contract.

**§ 8.7 Other provisions:**

« Contractor shall provide a minimum ten (10) years warranty from the date of substantial completion of all Labor and Materials for the Work covered by this contract, unless otherwise specified. Labor and Material warranties required by other sections of the construction document shall not conflict with this provision. The most stringent warranty provision shall apply. »

**§ 8.8 Force Majeure:**

In the event that either party hereto shall be delayed or hindered in or prevented from the performance of any act required hereunder by reason of strikes, lockouts, labor troubles, inability to procure materials, failure of power, restrictive governmental laws or regulations, riots, insurrection, war, Act of God, or other reason of a like nature not the fault of the party delayed in performing work or doing acts required under the terms of this Agreement, then performance of such act shall be excused for the period of the delay and the period for the performance of any such act shall be extended for a period equivalent to the period of such delay.

**ARTICLE 9 ENUMERATION OF CONTRACT DOCUMENTS**

**§ 9.1** This Agreement is comprised of the following documents:

- .1 AIA Document A101™–2017, Standard Form of Agreement Between Owner and Contractor
- .2 AIA Document A201, General Conditions of the Contract for Construction, including Owner's then-current modifications, a copy of which is incorporated in the contract documents and incorporated by reference herein as a part thereof.
- .3 Drawings

Number	Title	Date
T100 Mechanical	Title Sheet	
M-100	Legend Notes, Details Schedules, and Abbreviations	
M-200	Site Plan – Mechanical	
M-300	Enlarged Plans – Demolition	
M-400	Enlarged Plans – New Work	
M-500	Controls	
Electrical		
E100	Electrical Legend and Specifications	
E200	Electrical Site Plan	

E300	Enlarged Electrical Existing Plan	
E400	Enlarged Electrical New Work Plan	

**4 Specifications**

Section	Title	Date
230000	HVAC General	
230010	Codes and Standards	
230020	HVAC Related Work	
230519	Meters & Gauges	
230523	Valves	
230529	Hangers & Supports	
230539	Testing, Cleaning, & Sterilization for HVAC Piping	
230548	Vibration Isolation	
230553	HVAC Identification	
230590	Startup Requirements for HVAC Systems	
230593	Testing, Adjusting, & Balancing	
230716	HVAC Equipment Insulation	
230719	HVAC Piping Insulation	
230900	Instrumentation & Controls	
232113	Hydronic Piping	
232116	Hydronic Piping Specialties	
235200	Heating Water Coolers	
236423	Air-Cooled Scroll Water Chillers	

**.5 Addenda, if any:**

Number	Date
N/A	

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

**.6 Other Exhibits:**

**§ 9.2**

Supplementary and other Conditions of the Contract:

Document	Title	Date	Pages
N/A			

**§ 9.2.1** Other documents, if any, listed below:

*(List here any additional documents that are intended to form part of the Contract Documents. AIA Document A201™-2017 provides that the advertisement or invitation to bid, Instructions to Bidders, sample forms, the Contractor's bid or proposal, portions of Addenda relating to bidding or proposal requirements, and other information furnished by the Owner in anticipation of receiving bids or proposals, are not part of the Contract Documents unless enumerated in this Agreement. Any such documents should be listed here only if intended to be part of the Contract Documents.)*

**BIDDING AND CONTRACT REQUIREMENTS**

Section 00100	Invitation to Bid
Section 00200	Instructions to Bidders-AIA Document A701-2018
Section 00300	Supplementary Instructions to Bidders
Section 00400	Bid Form
	Accounting of Sales Tax Form C-3A
	Office of Supplier Diversity Subcontracting and Major Supplier Plan
Section 00500	Standard Form of Agreement Between Owner and Contractor AIA Document A101
Section 00600	Bonds, Certificates and Affidavits

Section 00700	Performance Bond
	Labor and Material Payment Bond
	E-Verify Documentation (Sample)
	Application and Certificate for Payment
	AIA Document G702 and
	AIA Document G703 with DBE Utilization Report
	Certificate of Substantial Completion
	AIA Document G704
	Contractor's Affidavit of Payment of Debts and Claims-
	AIA Document G706
	Contractor's Affidavit of Release of Liens
	AIA Document G706A
	Consent of Surety to Final Payment
AIA Document G707	
Request for Taxpayer Identification Number and Certification W9 Tax Form and City of Mobile Vendor Information Form	
General Conditions of the Contract for Construction-	
AIA Document A201»	

- § 9.2.2 Best Management Practices (BMPs): The Contractor shall be responsible for providing, implementing and maintaining BMPs for sediment and erosion control in full compliance with all applicable Local, State and Federal Codes and Ordinances throughout the contract period. All Work shall be in accordance with the Clean Water Act; the Alabama Water Pollution Control Act; the current version of the Alabama Handbook for Erosion Control, Sediment Control Storm water Management on Construction sites and Urban Areas; and the current version of the Mobile, Alabama City Code Chapter 17 Storm water Management and Flood Control. All Wastewater with oils, grease, paint, mortar, etc., shall be properly contained and disposed of.
- § 9.2.3 Contractor shall comply with all Federal, State and local laws concerning nondiscrimination, including but not limited to City of Mobile Ordinance No. 14-034 which requires, *inter alia*, that all contractors performing work for the City of Mobile not discriminate on the basis of race, creed, color, national origin or disability, require that all subcontractors they engage do the same, and make every reasonable effort to assure that fifteen percent of the work performed under contract be awarded to socially and economically disadvantaged individuals and business entities.
- § 9.2.4 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.
- § 9.2.5 Public Contracts with Entities Engaging in certain Boycott Activities:  
By signing this contract, the Contractor further represents and agrees that it is not currently engaged in, nor will it engage in, any boycott of a person or entity based in or doing business with a jurisdiction with which the State of Alabama can enjoy open trade.
- § 9.2.6 Severability Clause:  
In case any one or more of the provisions contained in this Agreement shall for any reason be held to be invalid, illegal or unenforceable in any respect, such invalidity, illegality or unenforceability shall not affect any other provisions of this Agreement, but this Agreement shall be construed as if such invalid or illegal or unenforceable provision had never been contained herein. Upon such determination that any term or other provision is invalid, illegal or unenforceable, the court or other tribunal making such determination is authorized and instructed to modify this Agreement so as to effect the original intent of the parties as closely as possible so that the transactions and agreements contemplated herein are consummated as originally contemplated to the fullest extent possible.

§ 9.2.7 Non-Agency Clause:

Contractor, in the performance of its operations and obligations hereunder, shall not be deemed to be an agent of City but shall be deemed to be an independent Contractor in every respect and shall take all steps at its own expense, as City may from time to time request, to indicate that it is an independent Contractor. City does not and will not assume any responsibility for the means by which or the manner in which the services by Contractor provided for herein are performed, but on the contrary, Contractor shall be wholly responsible therefore.



**REMAINDER OF PAGE INTENTIONALLY LEFT BLANK**

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

Owner: City of Mobile

Legal Name of Party to Contract:  
Contractor: <name of contractor>

\_\_\_\_\_  
**OWNER** *(Signature)*

\_\_\_\_\_  
**CONTRACTOR** *(By Signature)*

\_\_\_\_\_  
William S. Stimpson, Mayor  
*(Printed name and title)*

\_\_\_\_\_  
<Name of person signing form>  
*(Printed name and title)*

ATTEST:

\_\_\_\_\_  
City Clerk

STATE OF \_\_\_\_\_  
COUNTY OF \_\_\_\_\_

Before me, the undersigned a Notary Public in and for said County and State, personally appeared <Individual NAME> as <Title within Company> of <Company Legal Name> and after being duly sworn, did depose and say that he, as such officer and with full authority, signed the above and foregoing voluntarily as the act of said corporation on the day the same bears date.  
Sworn to and subscribed for me this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_\_.

\_\_\_\_\_  
NOTARY PUBLIC  
My Commission Expires: \_\_\_\_\_



BONDS, CERTIFICATES AND AFFIDAVITS

**PART 1 GENERAL**

This section includes the Bond Forms and Certificates that are to be used on this Project. No other forms will be accepted. Forms may be obtained from the Architectural Engineering Department, City of Mobile, telephone number 251-208-7454.

1.1 FORMS

- A. PERFORMANCE BOND. Owner's modified Performance Bond form.
- B. LABOR AND MATERIAL PAYMENT BOND. Owner's modified Payment Bond form.
- C. APPLICATION AND CERTIFICATION FOR PAYMENT - AIA Document G702 and AIA Document G703 and DBE Utilization Report
- D. CERTIFICATE of SUBSTANTIAL COMPLETION – AIA Document G704-2017
- E. CONTRACTOR'S AFFIDAVIT OF PAYMENT OF DEBTS AND CLAIMS - AIA Document G706
- F. CONTRACTOR'S AFFIDAVIT OF RELEASE OF LIENS - AIA Document G706A.
- G. CONSENT OF SURETY TO FINAL PAYMENT - AIA Document G707
- H. E-Verify Documentation (Sample)
- I. Request for Taxpayer Identification Number and Certification, W-9 Form, and City of Mobile Vendor Information Form

**PERFORMANCE BOND**

Any singular reference to Contractor, Surety, Owner or other Party shall be considered plural where applicable.

**KNOW ALL MEN BY THESE PRESENTS:** That the Contractor, \_\_\_\_\_, \_\_\_\_\_, hereinafter called the Principal, and \_\_\_\_\_, hereinafter called the Surety, are held and firmly bound unto the **City of Mobile, P. O. Box 1827, Mobile, AL 36633**, hereinafter called the Owner, in the penal sum of \_\_\_\_\_ and xx/100 Dollars (\$\_\_\_\_\_.00) for payment of which we bind ourselves, our heirs, executors, administrators, successors, and assigns for the faithful performance of a certain written Contract dated the \_\_\_\_ day of \_\_\_\_\_, 2021 entered into between the Principal and the City of Mobile for furnishing all labor, material, equipment and insurance and performing all Work required to properly complete History Museum of Mobile – HVAC Upgrades (MU-008-24) 111 S Royal Street, Mobile, Alabama 36602, a copy of which said Contract is incorporated herein by reference and is made a part hereof as if fully copied herein.

**NOW, THEREFORE**, the condition of this obligation is such that if the Principal shall faithfully perform the terms and conditions of the Contract in all respects on its part and shall fully pay all obligations incurred in connection with the performance of such Contract on account of labor and materials used in connection therewith, and all such other obligations of every form, nature and character, and shall save harmless the Owner from all and any liability of every nature, kind and character which may be incurred in connection with the performance or fulfillment of such Contract or other such and liability resulting from negligence or otherwise on the part of such Principal and further save harmless the Owner from all cost and damage which may be suffered by reason of the failure to fully and completely perform said contract and shall fully reimburse and repay the Owner for all expenditures of every kind, character, and description which may be incurred by the Owner in making good any and every default which may exist on the part of the Principal in connection with the performance of said Contract; and further that the Principal shall pay all lawful claims of all persons, firms, partnerships, or corporations for all labor performed and material furnished in connection with the performance of the Contract, and that the failure to do so with such persons, firms, partnerships or corporations shall give them a direct obligation; and provided, however, that no suit, action, or proceedings by reason of any default whatever shall be brought on this bond after two years from the date on which the final payment on the Contract falls due, and provided, further, that if any alterations or additions which may be made under the Contract, or in the work to be done under it, or the giving by the Owner of any extensions of time for the performance of the Contract or any other forbearance being expressly waived. This obligation shall remain in full force and effect until the performance of all covenants, terms and conditions herein stipulated and after such performance, it shall become null and void.

In addition to any other legal mode of service, service of summons, and other process in civil actions brought in Mobile County may be had on the Contractor or the Surety on the bond by leaving a copy of the summons and complaint or other pleading or process with the Mayor of the City of Mobile which shall bind the principal Contractor and Surety to the mode of service above described and that the service shall be the same as personal service on the contractor or surety. This Bond is given pursuant to the terms of Alabama Code, Title 39-1-1, et. al., As Amended.

**EXECUTED IN FOUR (4) COUNTERPARTS.**

SIGNED, SEALED AND DELIVERED this \_\_\_\_ day of \_\_\_\_\_, 2024.

**CONTRACTOR AS PRINCIPAL**  
Company: \_\_\_\_\_  
(Corporate Seal)

**SURETY**  
Company: \_\_\_\_\_  
(Corporate Seal)

By: \_\_\_\_\_  
(Signature)

By: \_\_\_\_\_  
(Signature)

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

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

Resident Agent: \_\_\_\_\_  
(Signature)

Name and Title: \_\_\_\_\_  
Company Name: \_\_\_\_\_  
Address: \_\_\_\_\_  
Phone and Fax: \_\_\_\_\_

Owner's Representative: Cassie Boatwright  
REAM Director  
PO Box 1827  
Mobile, AL 36633  
251-208-7454



# LABOR AND MATERIAL PAYMENT BOND

Any singular reference to Contractor, Surety, Owner or other Party shall be considered plural where applicable.

**KNOW ALL MEN BY THESE PRESENTS:** That the Contractor, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_, as Principal, and \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_, as Surety, are held and firmly bound unto the **City of Mobile, P. O. Box 1827, Mobile, AL 36633** (hereinafter called the "Obligee") in the penal sum of \_\_\_\_\_ and xx/100 (\$ \_\_\_\_\_ .00) lawful money of the United States, for the payment of which sum well and truly to be made we bind ourselves, our heirs, personal representatives, successors, and assigns, jointly and severally, firmly by these presents.

**WHEREAS,** said Principal has entered into a certain Contract with said Obligee, dated the \_\_\_\_ day of \_\_\_\_\_, 2021 (hereinafter called the "Contract") for furnishing all labor, material, equipment and insurance and perform all work required to properly complete History Museum of Mobile – HVAC Upgrades (MU-008-24) 111 S Royal Street, Mobile, Alabama 36602, which, **THEREFORE, THE CONDITION OF THIS OBLIGATION IS SUCH** that if said Principal and all subcontractors to whom any portion of work provided for in said Contract is sublet and all assignees of said Principal and of such subcontractors shall promptly make payments to all persons supplying him or them with labor, materials or supplies for or in the prosecution of the work provided for in such Contract, or in any amendment or extension of or additions to said Contract, and for the payment of reasonable attorney's fees, incurred by the claimant or claimants in suits on each bond, then the above obligations shall be void; otherwise to remain in full force and effect. **PROVIDED,** however, that this bond is subject to the following conditions and limitations.

- (a) Any person, firm or corporation that has furnished labor, materials or supplies for or in the prosecution of the work provided for in said contract shall have a direct right of action against the Principal and Surety on this bond, which right of action shall be asserted in a proceeding instituted in the County in which the work provided for in said Contract is to be performed or in any county in which said Principal and Surety does business. Such right of action shall be asserted in a proceeding instituted in the name of the claimant or claimants for his or their use and benefit against said Principal and Surety or either of them (but not later than one year after the final settlement of said Contract) in which action such claim or claims shall be adjudicated and judgment rendered thereon.
- (b) The Principal and Surety hereby designate and appoint \_\_\_\_\_ **Attorney-In-Fact,** as the agent of each of them to receive and accept service of process or other pleading issued or filed in any proceeding instituted on this bond and hereby consent that such service shall be the same as personal service on the Principal and/or Surety. In addition to any other legal mode of service, service of summons, and other process in civil actions brought in Mobile County may be had on the Contractor or the Surety on the bond by leaving a copy of the summons and complaint or other pleading or process with the Mayor of the City of Mobile which shall bind the principal Contractor and Surety to the mode of service above described and that the service shall be the same as personal service on the contractor or surety.
- (c) The Surety shall not be liable hereunder for damage or compensation recoverable under any Workmen's Compensation or Employer's Liability Statute.
- (d) In no event shall the Surety be liable for a greater sum than the penalty of this bond, or subject to any suit, action or proceeding thereon that is instituted later than two years after the final settlement of said Contract.
- (e) This bond is given pursuant to the terms of Alabama Code, Title 39-1-1, et. al., As Amended.

**EXECUTED IN FOUR (4) COUNTERPARTS.**

SIGNED, SEALED AND DELIVERED this \_\_\_\_ day of \_\_\_\_\_, 2024

**CONTRACTOR AS PRINCIPAL**  
Company: \_\_\_\_\_  
(Corporate Seal)

**SURETY**  
Company: \_\_\_\_\_  
(Corporate Seal)

By: \_\_\_\_\_  
(Signature)

By: \_\_\_\_\_  
(Signature)

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

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

Resident Agent: \_\_\_\_\_  
(Signature)

Owner's Representative: Cassie Boatwright  
REAM Director  
PO Box 1827  
Mobile, AL 36633  
251-208-7454

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

Company Name: \_\_\_\_\_

Address: \_\_\_\_\_

Phone and Fax: \_\_\_\_\_

Company ID Number:

Approved by:

Employer	
Name (Please Type or Print)	
Signature	Date
Department of Homeland Security, Division	
Name (Please Type or Print)	Title
Signature	Date

**SAMPLE**

Company ID Number:

Information Required for the E-Verify Program	
Information relating to your Company:	
Company Name	
Company Facility Address	
Company Alternate Address	
County or Parish	
Employer Identification Number	
North American Industry Classification Systems Code	
Parent Company	
Number of Employees	
Number of Sites Verified for	

**SAMPLE**

TO OWNER City of Mobile  
P. O. Box 1827  
Mobile, Alabama 36633-1827

PROJECT:

APPLICATION NO:

Distribution to:

<input type="checkbox"/>	OWNER
<input type="checkbox"/>	ARCHITECT
<input type="checkbox"/>	CONTRACTOR
<input type="checkbox"/>	
<input type="checkbox"/>	

PERIOD TO:

FROM CONTRACTOR:

VIA ARCHITECT:

PROJECT NO:

CONTRACT FOR:

CONTRACT DATE:

**CONTRACTOR'S APPLICATION FOR PAYMENT**

Application is made for payment, as shown below, in connection with the Contract. Continuation Sheet, AIA Document G703, is attached.

The undersigned Contractor certifies that to the best of the Contractor's 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 the Contractor for Work for which previous Certificates for Payment were issued and payments received from the Owner, and that current payment shown herein is now due.

- 1. ORIGINAL CONTRACT SUM \$ \_\_\_\_\_
- 2. Net change by Change Orders \$ \_\_\_\_\_
- 3. CONTRACT SUM TO DATE (Line 1 ± 2) \$ \_\_\_\_\_
- 4. TOTAL COMPLETED & STORED TO DATE (Column G on G703) \$ \_\_\_\_\_
- 5. RETAINAGE:
  - a. \_\_\_\_\_ % of Completed Work \$ \_\_\_\_\_  
(Column D + E on G703)
  - b. \_\_\_\_\_ % of Stored Material \$ \_\_\_\_\_  
(Column F on G703)
  - Total Retainage (Lines 5a + 5b or Total in Column I of G703) \$ \_\_\_\_\_
- 6. TOTAL EARNED LESS RETAINAGE \$ \_\_\_\_\_  
(Line 4 Less Line 5 Total)
- 7. LESS PREVIOUS CERTIFICATES FOR PAYMENT (Line 6 from prior Certificate) \$ \_\_\_\_\_
- 8. CURRENT PAYMENT DUE \$ \_\_\_\_\_
- 9. BALANCE TO FINISH, INCLUDING RETAINAGE \$ \_\_\_\_\_  
(Line 3 less Line 6)

CONTRACTOR:

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

State of: \_\_\_\_\_ County of: \_\_\_\_\_  
Subscribed and sworn to before me this \_\_\_\_\_ day of \_\_\_\_\_  
Notary Public:  
My Commission expires: \_\_\_\_\_

**ARCHITECT'S CERTIFICATE FOR PAYMENT**

In accordance with the Contract Documents, based on on-site observations and the data comprising the application, the Architect certifies to the Owner that to the best of the Architect's knowledge, information and belief the Work has progressed as indicated, the quality of the Work is in accordance with the Contract Documents, and the Contractor is entitled to payment of the AMOUNT CERTIFIED.

AMOUNT CERTIFIED . . . . . \$ \_\_\_\_\_

*(Attach explanation if amount certified differs from the amount applied. Initial all figures on this Application and on the Continuation Sheet that are changed to conform with the amount certified.)*  
ARCHITECT:

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

This Certificate is not negotiable. The AMOUNT CERTIFIED is payable only to the Contractor named herein. Issuance, payment and acceptance of payment are without prejudice to any rights of the Owner or Contractor under this Contract.

CHANGE ORDER SUMMARY	ADDITIONS	DEDUCTIONS
Total changes approved in previous months by Owner		
Total approved this Month		
<b>TOTALS</b>		
NET CHANGES by Change Order		

OFFICE OF SUPPLIER DIVERSITY

**CITY OF MOBILE**

**DBE Compliance  
DBE UTILIZATION REPORT**

**Return to Office of Supplier Diversity**  
Via email: [archnique.kidd@cityofmobile.org](mailto:archnique.kidd@cityofmobile.org)  
or  
P.O. Box 1948  
Mobile, AL 36633

<b>CONTRACTOR:</b>	<b>Certified DBE:</b>	<b>YES</b>	<b>NO</b>	<b>Contract Start Date:</b>
--------------------	-----------------------	------------	-----------	-----------------------------

<b>DESCRIPTION:</b>	<b>Estimated Completion Date:</b>
---------------------	-----------------------------------

<b>This report is for the month of:</b>	<b>JAN</b>	<b>APR</b>	<b>JULY</b>	<b>OCT</b>	
<b>(CHECK ONE):</b>	<b>FEB</b>	<b>MAY</b>	<b>AUG</b>	<b>NOV</b>	<b>FINAL _____</b>
	<b>MARCH</b>	<b>JUNE</b>	<b>SEPT</b>	<b>DEC</b>	

Original Contract Amount	Total Amount of Contract Changes (change orders or amendments)	Final Contract Amount (include contract changes)	Payments to Date from City of Mobile	<b>OFFICE USE ONLY (Verification)</b>
\$	\$	\$	\$	

**Instructions:** List all DBEs utilized on the contract, whether or not the firms were originally listed for DBE goal credit. List actual amount paid to each DBE firm. If the established Percentage is not being met, please include a narrative description of the progress being made in DBE participation.

DBE SUBCONTRACTOR	DBE DESCRIPTION OF WORK	DBE SUBCONTRACT AMOUNT	DBE PAYMENTS THIS REPORT	PAYMENTS TO DATE	<b>OFFICE USE ONLY (Verification)</b>
		\$	\$	\$	
		\$	\$	\$	
		\$	\$	\$	
		\$	\$	\$	
<b>TOTALS</b>		\$	\$	\$	

**I HEREBY CERTIFY THAT THE INFORMATION CONTAINED HEREIN IS TRUE AND CORRECT. SUPPORTING DOCUMENTATION IS ON FILE AND IS AVAILABLE FOR INSPECTION BY CITY OF MOBILE OFFICE OF SUPPLIER DIVERSITY PERSONNEL AT ANY TIME.**

PRINT NAME: \_\_\_\_\_

SIGNATURE: \_\_\_\_\_ /\_\_\_\_\_/\_\_\_\_\_  
(Title) (Date)

DBE Utilization Report



TO OWNER City of Mobile
P. O. Box 1827
Mobile, AL 36633-1827

PROJECT:

APPLICATION NO:

Distribution to:

Form with checkboxes for OWNER, ARCHITECT, CONTRACTOR and two empty boxes.

PERIOD TO:

FROM CONTRACTOR:

VIA ARCHITECT:

PROJECT NO:

CONTRACT FOR:

CONTRACT DATE:

CONTRACTOR'S APPLICATION FOR PAYMENT

Application is made for payment, as shown below, in connection with the Contract. Continuation Sheet, AIA Document G703, is attached.

The undersigned Contractor certifies that to the best of the Contractor's knowledge, application 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 the Contractor for Work for which previous Certificates for Payment were issued and payments received from the Owner, and that current payment shown herein is now due.

- 1. ORIGINAL CONTRACT SUM \$
2. Net change by Change Orders \$
3. CONTRACT SUM TO DATE (Line 1 ± 2) \$
4. TOTAL COMPLETED & STORED TO DATE (Column G on G703) \$
5. RETAINAGE:
a. % of Completed Work (Column D + E on G703) \$
b. % of Stored Material (Column F on G703) \$
Total Retainage (Lines 5a + 5b or Total in Column I of G703) \$
6. TOTAL EARNED LESS RETAINAGE (Line 4 Less Line 5 Total) \$
7. LESS PREVIOUS CERTIFICATES FOR PAYMENT (Line 6 from prior Certificate) \$
8. CURRENT PAYMENT DUE \$
9. BALANCE TO FINISH, INCLUDING RETAINAGE (Line 3 less Line 6) \$

CONTRACTOR:

By: Date:

State of: County of:
Subscribed and sworn to before me this day of
Notary Public:
My Commission expires:

ARCHITECT'S CERTIFICATE FOR PAYMENT

In accordance with the Contract Documents, based on on-site observations and the data comprising the application, the Architect certifies to the Owner that to the best of the Architect's knowledge, information and belief the Work has progressed as indicated, the quality of the Work is in accordance with the Contract Documents, and the Contractor is entitled to payment of the AMOUNT CERTIFIED.

AMOUNT CERTIFIED \$

(Attach explanation if amount certified differs from the amount applied. Initial all figures on this Application and on the Continuation Sheet that are changed to conform with the amount certified.)

ARCHITECT:

By: Date:

This Certificate is not negotiable. The AMOUNT CERTIFIED is payable only to the Contractor named herein. Issuance, payment and acceptance of payment are without prejudice to any rights of the Owner or Contractor under this Contract.

Table with 3 columns: CHANGE ORDER SUMMARY, ADDITIONS, DEDUCTIONS. Rows include Total changes approved in previous months by Owner, Total approved this Month, TOTALS, and NET CHANGES by Change Order.

# CONTINUATION SHEET

AIA DOCUMENT G703

PAGE OF PAGES

AIA Document G702, APPLICATION AND CERTIFICATION FOR PAYMENT, containing Contractor's signed certification is attached.

APPLICATION NO:  
APPLICATION DATE:

In tabulations below, amounts are stated to the nearest dollar.

PERIOD TO:

Use Column I on Contracts where variable retainage for line items may apply.

ARCHITECT'S PROJECT NO:

A ITEM NO.	B DESCRIPTION OF WORK	C SCHEDULED VALUE	D WORK COMPLETED		F MATERIALS PRESENTLY STORED (NOT IN D OR E)	G		H BALANCE TO FINISH (C - G)	I RETAINAGE (IF VARIABLE RATE)
			FROM PREVIOUS APPLICATION (D + E)	THIS PERIOD		TOTAL COMPLETED AND STORED TO DATE (D+E+F)	% (G ÷ C)		
<b>GRAND TOTALS</b>									

Users may obtain validation of this document by requesting of the license a completed AIA Document D401 - Certification of Document's Authenticity



# CONTINUATION SHEET

AIA DOCUMENT G703

PAGE OF PAGES

AIA Document G702, APPLICATION AND CERTIFICATION FOR PAYMENT, containing Contractor's signed certification is attached.

APPLICATION NO:  
APPLICATION DATE:

In tabulations below, amounts are stated to the nearest dollar.

PERIOD TO:

Use Column I on Contracts where variable retainage for line items may apply.

ARCHITECT'S PROJECT NO:

A ITEM NO.	B DESCRIPTION OF WORK	C SCHEDULED VALUE	D WORK COMPLETED		F MATERIALS PRESENTLY STORED (NOT IN D OR E)	G		H BALANCE TO FINISH (C - G)	I RETAINAGE (IF VARIABLE RATE)
			FROM PREVIOUS APPLICATION (D + E)	THIS PERIOD		TOTAL COMPLETED AND STORED TO DATE (D+E+F)	% (G ÷ C)		
<b>GRAND TOTALS</b>									

Users may obtain validation of this document by requesting of the license a completed AIA Document D401 - Certification of Document's Authenticity



**AIA**<sup>®</sup>

# Document G704™ – 2000

## Certificate of Substantial Completion

**PROJECT:**  
*(Name and address)*

**PROJECT NUMBER:** /  
**CONTRACT FOR:** General Construction  
**CONTRACT DATE:**

**OWNER:**   
**ARCHITECT:**   
**CONTRACTOR:**   
**FIELD:**   
**OTHER:**

**TO OWNER:**  
*(Name and address)*

**TO CONTRACTOR:**  
*(Name and address)*

**City of Mobile, Architectural Engineering Department**  
**P.O. Box 1827**  
**Mobile, Alabama 36633-1827**

**PROJECT OR PORTION OF THE PROJECT DESIGNATED FOR PARTIAL OCCUPANCY OR USE SHALL INCLUDE:**

The Work performed under this Contract has been reviewed and found, to the Architect's best knowledge, information and belief, to be substantially complete. Substantial Completion is the stage in the progress of the Work when the Work or designated portion is sufficiently complete in accordance with the Contract Documents so that the Owner can occupy or utilize the Work for its intended use. The date of Substantial Completion of the Project or portion designated above is the date of issuance established by this Certificate, which is also the date of commencement of applicable warranties required by the Contract Documents, except as stated below:

### Warranty

### Date of Commencement

\_\_\_\_\_  
ARCHITECT

\_\_\_\_\_  
BY

\_\_\_\_\_  
DATE OF ISSUANCE

A list of items to be completed or corrected is attached hereto. The failure to include any items on such list does not alter the responsibility of the Contractor to complete all Work in accordance with the Contract Documents. Unless otherwise agreed to in writing, the date of commencement of warranties for items on the attached list will be the date of issuance of the final Certificate of Payment or the date of final payment.

**Cost estimate of Work that is incomplete or defective: \$0.00**

The Contractor will complete or correct the Work on the list of items attached hereto within Zero (0) days from the above date of Substantial Completion.

\_\_\_\_\_  
CONTRACTOR

\_\_\_\_\_  
BY

\_\_\_\_\_  
DATE

The Owner accepts the Work or designated portion as substantially complete and will assume full possession at \_\_\_\_\_ (time) on \_\_\_\_\_ (date).

**City of Mobile**

\_\_\_\_\_  
OWNER

\_\_\_\_\_  
BY

\_\_\_\_\_  
DATE

The responsibilities of the Owner and Contractor for security, maintenance, heat, utilities, damage to the Work and insurance shall be as follows:

*(Note: Owner's and Contractor's legal and insurance counsel should determine and review insurance requirements and coverage.)*



**AIA**<sup>®</sup>

# Document G706™ – 1994

## Contractor's Affidavit of Payment of Debts and Claims

PROJECT: <i>(Name and address)</i>	ARCHITECT'S PROJECT NUMBER:	OWNER: <input type="checkbox"/>
		ARCHITECT: <input type="checkbox"/>
TO OWNER: <i>(Name and address)</i>	CONTRACT FOR: General Construction	CONTRACTOR: <input type="checkbox"/>
	CONTRACT DATED:	SURETY: <input type="checkbox"/>
		OTHER: <input type="checkbox"/>

STATE OF:  
 COUNTY OF:

The undersigned hereby certifies that, except as listed below, payment has been made in full and all obligations have otherwise been satisfied for all materials and equipment furnished, for all work, labor, and services performed, and for all known indebtedness and claims against the Contractor for damages arising in any manner in connection with the performance of the Contract referenced above for which the Owner or Owner's property might in any way be held responsible or encumbered.

**EXCEPTIONS:**

**SUPPORTING DOCUMENTS ATTACHED HERETO:**

- Consent of Surety to Final Payment. Whenever Surety is involved, Consent of Surety is required. AIA Document G707, Consent of Surety, may be used for this purpose

Indicate Attachment  Yes  No

**CONTRACTOR:** *(Name and address)*

BY: \_\_\_\_\_  
*(Signature of authorized representative)*

\_\_\_\_\_  
*(Printed name and title)*

*The following supporting documents should be attached hereto if required by the Owner:*

- Contractor's Release or Waiver of Liens, conditional upon receipt of final payment.
- Separate Releases or Waivers of Liens from Subcontractors and material and equipment suppliers, to the extent required by the Owner, accompanied by a list thereof.
- Contractor's Affidavit of Release of Liens (AIA Document G706A).

Subscribed and sworn to before me on this date:

Notary Public:  
 My Commission Expires:



# AIA<sup>®</sup> Document G706A<sup>™</sup> – 1994

## Contractor's Affidavit of Release of Liens

PROJECT: <i>(Name and address)</i>	ARCHITECT'S PROJECT NUMBER:	OWNER: <input type="checkbox"/>
	CONTRACT FOR: General Construction	ARCHITECT: <input type="checkbox"/>
TO OWNER: <i>(Name and address)</i>	CONTRACT DATED:	CONTRACTOR: <input type="checkbox"/>
		SURETY: <input type="checkbox"/>
		OTHER: <input type="checkbox"/>

STATE OF:  
COUNTY OF:

The undersigned hereby certifies that to the best of the undersigned's knowledge, information and belief, except as listed below, the Releases or Waivers of Lien attached hereto include the Contractor, all Subcontractors, all suppliers of materials and equipment, and all performers of Work, labor or services who have or may have liens or encumbrances or the right to assert liens or encumbrances against any property of the Owner arising in any manner out of the performance of the Contract referenced above.

### EXCEPTIONS:

#### SUPPORTING DOCUMENTS ATTACHED HERETO:

1. Contractor's Release or Waiver of Liens, conditional upon receipt of final payment.
2. Separate Releases or Waivers of Liens from Subcontractors and material and equipment suppliers, to the extent required by the Owner, accompanied by a list thereof.

CONTRACTOR: *(Name and address)*

BY:

\_\_\_\_\_  
*(Signature of authorized representative)*

\_\_\_\_\_  
*(Printed name and title)*

Subscribed and sworn to before me on this date:

Notary Public:

My Commission Expires:





# AIA<sup>®</sup> Document G707<sup>™</sup> – 1994

## Consent Of Surety to Final Payment

PROJECT: <i>(Name and address)</i>	ARCHITECT'S PROJECT NUMBER:	OWNER: <input type="checkbox"/>
	CONTRACT FOR: General Construction	ARCHITECT: <input type="checkbox"/>
TO OWNER: <i>(Name and address)</i>	CONTRACT DATED:	CONTRACTOR: <input type="checkbox"/>
		SURETY: <input type="checkbox"/>
		OTHER: <input type="checkbox"/>

In accordance with the provisions of the Contract between the Owner and the Contractor as indicated above, the  
*(Insert name and address of Surety)*

on bond of  
*(Insert name and address of Contractor)*

, SURETY,

hereby approves of the final payment to the Contractor, and agrees that final payment to the Contractor shall not relieve the  
Surety of any of its obligations to  
*(Insert name and address of Owner)*

, CONTRACTOR,

as set forth in said Surety's bond.

, OWNER,

IN WITNESS WHEREOF, the Surety has hereunto set its hand on this date:  
*(Insert in writing the month followed by the numeric date and year.)*

\_\_\_\_\_  
*(Surety)*

\_\_\_\_\_  
*(Signature of authorized representative)*

Attest:  
*(Seal):*

\_\_\_\_\_  
*(Printed name and title)*

**CITY OF MOBILE, AL  
VENDOR INFORMATION FORM**

***Company Information:***

1. City Vendor Number:

2. Name of Company:

3. Company D.B.A. Name, if any:

4. Mailing Address:

5. Remittance Address:

6. Telephone:

7. Fax

8. Main Email:

***Primary Contact:***

9. Contact Name and Title:

10. Contact Phone:

11. Contact Fax:

12. Contact Email:

***Alternate Contact (if applicable):***

13. Alt. Contact Name and Title:

14. Alt. Contact Phone:

15. Alt. Contact Fax:

16. Alt. Contact Email:

***City of Mobile Business License Information:***

17. City of Mobile Business License No. (if required):

*Please attach additional sheets if necessary.*

## ELECTRONIC PAYMENT AUTHORIZATION

I authorize the City of Mobile to pay amounts owed to my company by EFT (electronic funds transfer). In the event of any discrepancy, the City has the authority to reverse the payment and debit my account for the incorrect payment amount.

*All fields are required to be completed.*

Company Name \_\_\_\_\_

City Vendor No. \_\_\_\_\_ Tax Identification No. \_\_\_\_\_  
*(if available)*

Billing Address \_\_\_\_\_

City State Zip \_\_\_\_\_

EFT Contact Person \_\_\_\_\_

EFT Contact Phone \_\_\_\_\_

EFT Contact Email \_\_\_\_\_  
*(required for EFT payment notification emails)*

Bank Name \_\_\_\_\_

Routing Number \_\_\_\_\_ Account Number \_\_\_\_\_

Account Type      Checking    or     Savings

Authorized Official (print) \_\_\_\_\_

Authorized Official (signature) \_\_\_\_\_ Date \_\_\_\_\_

For City Use Only:

Vendor No. \_\_\_\_\_

Entered Date \_\_\_\_\_





SECTION 00700

GENERAL CONDITIONS OF THE CONTRACT FOR CONSTRUCTION,  
AIA DOCUMENT A201 - 2007

**PART 1 GENERAL**

This section includes the GENERAL CONDITIONS OF THE CONTRACT FOR CONSTRUCTION, AIA Document A-201, that is to be used for this Project. The document has been electronically modified to meet the City of Mobile's requirements and shall be used for the project.



**AIA**<sup>®</sup>

# Document A201<sup>™</sup> – 2007

## General Conditions of the Contract for Construction

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

**THE OWNER:**

(Name, legal status and address)

City of Mobile

Architectural Engineering Department

P. O. Box 1827

Mobile, Alabama 36633-1827

**THE ARCHITECT:**

(Name, legal status and address)

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

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- 3 CONTRACTOR
- 4 ARCHITECT
- 5 SUBCONTRACTORS
- 6 CONSTRUCTION BY OWNER OR BY SEPARATE CONTRACTORS
- 7 CHANGES IN THE WORK
- 8 TIME
- 9 PAYMENTS AND COMPLETION
- 10 PROTECTION OF PERSONS AND PROPERTY
- 11 INSURANCE AND BONDS
- 12 UNCOVERING AND CORRECTION OF WORK
- 13 MISCELLANEOUS PROVISIONS
- 14 TERMINATION OR SUSPENSION OF THE CONTRACT
- 15 CLAIMS AND DISPUTES

Init.

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User Notes:

(1383216234)

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(Numbers and Topics in Bold are Section Headings)

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## ARTICLE 1 GENERAL PROVISIONS

### § 1.1 BASIC DEFINITIONS

#### § 1.1.1 THE CONTRACT DOCUMENTS

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

#### § 1.1.2 THE CONTRACT

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

#### § 1.1.3 THE WORK

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

#### § 1.1.4 THE PROJECT

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

#### § 1.1.5 THE DRAWINGS

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

#### § 1.1.6 THE SPECIFICATIONS

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

#### § 1.1.7 INSTRUMENTS OF SERVICE

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

#### § 1.1.8 INITIAL DECISION MAKER

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

### § 1.2 CORRELATION AND INTENT OF THE CONTRACT DOCUMENTS

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

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

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

### § 1.3 CAPITALIZATION

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

### § 1.4 INTERPRETATION

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

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

§ 1.5.1 The Architect and the Architect's consultants shall be deemed the authors and owners of their respective Instruments of Service, including the Drawings and Specifications, and will retain all common law, statutory and other reserved rights, including copyrights. The Contractor, Subcontractors, Sub-subcontractors, and material or equipment suppliers shall not own or claim a copyright in the Instruments of Service. Submittal or distribution to meet official regulatory requirements or for other purposes in connection with this Project is not to be construed as publication in derogation of the Architect's or Architect's consultants' reserved rights.

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

### § 1.6 TRANSMISSION OF DATA IN DIGITAL FORM

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

## ARTICLE 2 OWNER

### § 2.1 GENERAL

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

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

### § 2.2 INFORMATION AND SERVICES REQUIRED OF THE OWNER

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

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

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

§ 2.2.3 The Owner shall furnish surveys describing physical characteristics, legal limitations and utility locations for the site of the Project, and a legal description of the ~~site~~ site, as may be required. The Contractor shall be entitled to rely on the accuracy of information furnished by the Owner but shall exercise proper precautions relating to the safe performance of the Work.

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

§ 2.2.5 ~~Unless otherwise provided in the Contract Documents, the~~ The Owner shall furnish to the Contractor ~~one copy of the Contract Documents for purposes of making reproductions pursuant to Section 1.5.2, up to ten copies of the drawings and specifications as required for Contractor's execution of the Work. Any additional sets of documents that the contractor desires for construction of the Project will be issued to contractor at actual printing and handling costs.~~

### § 2.3 OWNER'S RIGHT TO STOP THE WORK

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

### § 2.4 OWNER'S RIGHT TO CARRY OUT THE WORK

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

## ARTICLE 3 CONTRACTOR

### § 3.1 GENERAL

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

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

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

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### § 3.2 REVIEW OF CONTRACT DOCUMENTS AND FIELD CONDITIONS BY CONTRACTOR

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

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

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

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

### § 3.3 SUPERVISION AND CONSTRUCTION PROCEDURES

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

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

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

3.3.4 Three (3) days after the opening of the Bids, the Contractor shall furnish for written approval, an outline of the education, experience and character of the Contractor's project manager, superintendent and engineer. Any future substitution must have prior written approval of the Architect.

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### § 3.4 LABOR AND MATERIALS

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

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

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

3.4.4 The Contractor's or his Subcontractor's supervisors and workmen engaged on special work or skilled Work in any supervisory position or trade shall be qualified and have had sufficient education, training and experience as a recognized professional or master mechanic in such Work to perform it properly and satisfactorily as prescribed in the Contract Documents.

3.4.5 Any project manager, superintendent, engineer, foreman or workman employed by the Contractor or by a subcontractor who, in the sole opinion of the Architect, does not perform his Work in a proper and skillful manner or becomes party to disrespectful, intemperate, disorderly, intoxicated, or dishonest behavior, or uses foul language, fights, commits criminal act(s) falsifies records and construction, covers-up faulty Work or materials, does not comprehend or follow instructions, does not get along with the Architect or Owner's representative, or is otherwise objectionable, shall, at the written request by the Architect, be discharged 24 hours by the Contractor or Subcontractor employing such project manager, superintendent, engineer, foreman or workman, and shall not be employed again or any portion of the Work without the written consent of the Architect.

3.4.6 Should the Contractor fail to remove such person or persons specified in Article 3.4.5 hereinabove or fail to furnish suitable and sufficient machinery, equipment, materials or qualified labor force for the proper execution of the Work, the Architect may withhold all payments which are or may become due the Contractor or may suspend the Work until such orders are complied with.

3.4.7 Contractor shall abide by provisions of Section 14-1 and Section 14.2, Code of the City of Mobile, originally adopted December 10, 1991. Prohibiting Discrimination in Employment by Contractors, Subcontractors and Vendors performing Work and providing materials and supplies for the City of Mobile. A copy of said Code is located in the City's Projects Architectural Engineering Department. Certification of compliance with this requirement shall be made for all persons involved in the Work by the signature of the General Contractor on the Bid Form (Section 00410).

### § 3.5 WARRANTY

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

### § 3.6 TAXES

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



~~§ 3.7 PERMITS, FEES, NOTICES AND COMPLIANCE WITH LAWS~~  
**PERMITS, FEES, NOTICES, AND COMPLIANCE WITH LAWS**

~~§ 3.7.1 Unless otherwise provided in the Contract Documents, the Contractor shall secure and pay for the building permit as well as for City of Mobile building permit without cost, and shall secure and pay for other permits, fees, licenses, and inspections by government agencies necessary for proper execution and completion of the Work that are customarily secured after execution of the Contract and legally required at the time bids are received or negotiations concluded.~~

~~3.7.1.1 The Contractor shall secure building and other permits customarily obtained from the City of Mobile at no cost.~~

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

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

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

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

**§ 3.8 ALLOWANCES**

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

§ 3.8.2 Unless otherwise provided in the Contract Documents,

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

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

### § 3.9 SUPERINTENDENT

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

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

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

### § 3.10 CONTRACTOR'S CONSTRUCTION SCHEDULES

§ 3.10.1 The Contractor, promptly within ten (10) business days after being awarded the Contract, shall prepare and submit for the Owner's and Architect's information a Contractor's construction schedule for the Work. The schedule shall not exceed time limits current under the Contract Documents, shall be revised at appropriate intervals as required by the conditions of the Work and Project, shall be related to the entire Project to the extent required by the Contract Documents, and shall provide for expeditious and practicable execution of the Work.

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

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

### § 3.11 DOCUMENTS AND SAMPLES AT THE SITE

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

### § 3.12 SHOP DRAWINGS, PRODUCT DATA AND SAMPLES

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

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

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

§ 3.12.4 Shop Drawings, Product Data, Samples and similar submittals are not Contract Documents. Their purpose is to demonstrate the way by which the Contractor proposes to conform to the information given and the design concept expressed in the Contract Documents for those portions of the Work for which the Contract Documents require submittals. Review by the Architect is subject to the limitations of Section 4.2.7. Informational submittals

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upon which the Architect is not expected to take responsive action may be so identified in the Contract Documents. Submittals that are not required by the Contract Documents may be returned by the Architect without action.

**§ 3.12.5** The Contractor shall review for compliance with the Contract Documents, approve and submit to the Architect Shop Drawings, Product Data, Samples and similar submittals required by the Contract Documents ~~in accordance with the submittal schedule approved by the Architect or, in the absence of an approved submittal schedule,~~ with reasonable promptness and in such sequence as to cause no delay in the Work or in the activities of the Owner or of separate contractors. Submittals which are not marked as reviewed for compliance with the Contract Documents and approved by the Contractor may be returned by the Architect without action. Wherever Shop Drawings are required in these Specifications, Shop Drawings shall be submitted for approval before materials are fabricated. Drawings shall show complete details. The General Contractor shall check and approve them either in writing or by stamp before forwarding to the Architect. The Architect will mark copies "Approved" if correct; or "Approved As Noted" if only minor corrections are necessary. If major corrections are necessary they will be noted on the Shop Drawings and they will be returned to the Contractor for correction and resubmission. Submit four (4) copies for Architect's and Owner's use plus the number of copies the contractor requires for his own use.

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

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

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

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

**§ 3.12.10** The Contractor shall not be required to provide professional services that constitute the practice of architecture or engineering unless such services are specifically required by the Contract Documents for a portion of the Work or unless the Contractor needs to provide such services in order to carry out the Contractor's responsibilities for construction means, methods, techniques, sequences and procedures. The Contractor shall not be required to provide professional services in violation of applicable law. If professional design services or certifications by a design professional related to systems, materials or equipment are specifically required of the Contractor by the Contract Documents, the Owner and the Architect will specify all performance and design criteria that such services must satisfy. The Contractor shall cause such services or certifications to be provided by a properly licensed design professional, whose signature and seal shall appear on all drawings, calculations, specifications, certifications, Shop Drawings and other submittals prepared by such professional. Shop Drawings and other submittals related to the Work designed or certified by such professional, if prepared by others, shall bear such professional's written approval when submitted to the Architect. The Owner and the Architect shall be entitled to rely upon the adequacy, accuracy and completeness of the services, certifications and approvals performed or provided by such design professionals, provided the Owner and Architect have specified to the Contractor all performance and design criteria that such services must satisfy. Pursuant to this Section 3.12.10, the Architect will review, approve or take other appropriate action on submittals only for the limited purpose of checking for conformance with information given and the design concept expressed in the Contract Documents. The Contractor

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shall not be responsible for the adequacy of the performance and design criteria specified in the Contract Documents.

### § 3.13 USE OF SITE

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

### § 3.14 CUTTING AND PATCHING

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

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

### § 3.15 CLEANING UP

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

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

### § 3.16 ACCESS TO WORK

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

### § 3.17 ROYALTIES, PATENTS AND COPYRIGHTS

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

### § 3.18 INDEMNIFICATION

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

§ 3.18.2 In claims against any person or entity indemnified under this Section 3.18 by an employee of the Contractor, a Subcontractor, anyone directly or indirectly employed by them or anyone for whose acts they may be

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liable, the indemnification obligation under Section 3.18.1 shall not be limited by a limitation on amount or type of damages, compensation or benefits payable by or for the Contractor or a Subcontractor under workers' compensation acts, disability benefit acts or other employee benefit acts.

3.19 As applicable, the Contractor shall be responsible at the appropriate time during construction of the Project to have all permanent meters installed (electrical, water, gas, etc.) and all utilities connected prior to the time of Final Inspection. The Contractor shall pay all utilities costs until the Project is accepted by the City of Mobile.

#### ARTICLE 4 ARCHITECT

##### § 4.1 GENERAL

§ 4.1.1 The Owner shall retain an architect lawfully licensed to practice architecture or an entity lawfully practicing architecture in the jurisdiction where the Project is located. That person or entity is identified as the Architect in the Agreement and is referred to throughout the Contract Documents as if singular in number. "Architect" may also designate the Licensed Designer of the Project and may be an Engineer or Landscape Architect.

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

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

##### § 4.2 ADMINISTRATION OF THE CONTRACT

§ 4.2.1 The Architect will provide administration of the Contract as described in the Contract Documents and will be an Owner's representative ~~during construction until the date the Architect issues the final Certificate for Payment.~~ (1) during construction (2) until all conditions necessary for the final completion and payment have been fulfilled and (3) with the Owner's concurrence, from time to time during the one-year period for correction of Work described in Section 12.2. The Architect will have authority to act on behalf of the Owner only to the extent provided in the ~~Contract Documents.~~ Documents, unless otherwise modified in writing in accordance with other provisions of the Contract.

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

§ 4.2.3 On the basis of the site visits, the Architect will keep the Owner reasonably informed about the progress and quality of the portion of the Work completed, and report to the Owner (1) known deviations from the Contract Documents and from the most recent construction schedule submitted by the Contractor, and (2) defects and deficiencies observed in the Work. The Architect will not be responsible for the Contractor's failure to perform the Work in accordance with the requirements of the Contract Documents. The Architect will not have control over or charge of and will not be responsible for acts or omissions of the Contractor, Subcontractors, or their agents or employees, or any other persons or entities performing portions of the Work.

##### § 4.2.4 COMMUNICATIONS FACILITATING CONTRACT ADMINISTRATION

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

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

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

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

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

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

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

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

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

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

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

## ARTICLE 5 SUBCONTRACTORS

### § 5.1 DEFINITIONS

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

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

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

§ 5.2.1 ~~Unless otherwise stated in the Contract Documents or the bidding requirements, the Contractor, as soon as practicable after award of the Contract, The apparent low bidder, within (3) days after bids are opened shall furnish in writing to the Owner through the Architect the names of persons or entities (including those who are to furnish materials or equipment fabricated to a special design) proposed for each principal portion of the Work. The Architect may reply within 14 days to the Contractor in writing stating (1) whether the Owner or the Architect has reasonable objection to any such proposed person or entity or (2) that the Architect requires additional time for review. Failure of the Owner or Architect to reply within the 14-day-14 day period shall constitute notice of no reasonable objection.~~

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

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

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

### § 5.3 SUBCONTRACTUAL RELATIONS

By appropriate agreement, written where legally required for validity, the Contractor shall require each Subcontractor, to the extent of the Work to be performed by the Subcontractor, to be bound to the Contractor by terms of the Contract Documents, and to assume toward the Contractor all the obligations and responsibilities, including the responsibility for safety of the Subcontractor's Work, which the Contractor, by these Documents, assumes toward the Owner and Architect. Each subcontract agreement shall preserve and protect the rights of the Owner and Architect under the Contract Documents with respect to the Work to be performed by the Subcontractor so that subcontracting thereof will not prejudice such rights, and shall allow to the Subcontractor, unless specifically provided otherwise in the subcontract agreement, the benefit of all rights, remedies and redress against the Contractor that the Contractor, by the Contract Documents, has against the Owner. Where appropriate, the Contractor shall require each Subcontractor to enter into similar agreements with Sub-subcontractors. The Contractor shall make available to each proposed Subcontractor, prior to the execution of the subcontract agreement, copies of the Contract Documents to which the Subcontractor will be bound, and, upon written request of the Subcontractor, identify to the Subcontractor terms and conditions of the proposed subcontract agreement that may be at variance with the Contract Documents. Subcontractors will similarly make copies of applicable portions of such documents available to their respective proposed Sub-subcontractors.

### § 5.4 CONTINGENT ASSIGNMENT OF SUBCONTRACTS

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

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

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

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

§ 5.4.3 Upon such assignment to the Owner under this Section 5.4, the Owner may further assign the subcontract to a successor contractor or other entity. ~~If the Owner assigns the subcontract to a successor contractor or other entity, the Owner shall nevertheless remain legally responsible for all of the successor contractor's obligations under the subcontract.~~

## ARTICLE 6 CONSTRUCTION BY OWNER OR BY SEPARATE CONTRACTORS

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

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

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

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

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

### § 6.2 MUTUAL RESPONSIBILITY

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

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

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



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

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

### § 6.3 OWNER'S RIGHT TO CLEAN UP

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

## ARTICLE 7 CHANGES IN THE WORK

### § 7.1 GENERAL

§ 7.1.1 Changes in the Work may be accomplished after execution of the Contract, and without invalidating the Contract, by Change Order, Construction Change Directive or order for a minor change in the Work, subject to the limitations stated in this Article 7 and elsewhere in the Contract Documents. The total of all Change Orders on each contract shall not exceed ten percent (10%) of the contract price for each project and shall be subject to at least one of the following criteria:

- 1 Minor changes for a total monetary value less than required for competitive bidding under the State Competitive Bid Laws.
- 2 Changes for matters relatively minor and incidental to the original contract necessitated by unforeseen circumstances arising during the course of the Work.
- 3 Emergencies arising during the course of the Work on the Contract.
- 4 Changes or Alternates provided for in the original bidding where there is no difference in price on the Change Order from the original best bid on the Alternate.
- 5 Changes of relatively minor items not contemplated when the plans and specifications were prepared and the project was bid which are in the public interest.

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

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

### § 7.2 CHANGE ORDERS

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

- 1 The change in the Work;
- 2 The amount of the adjustment, if any, in the Contract Sum; and
- 3 The extent of the adjustment, if any, in the Contract Time.
- 4 There shall be attached to each Change Order a signed statement from the Architect containing the following:
  - A. A statement of what the Change Order covers and who instituted the Change Order and why it is necessary or desired.
  - B. A statement setting forth the reasons for using the Change Order method rather than taking new competitive bids.
  - C. A statement that all prices have been reviewed and found reasonable, fair and equitable and recommending approval of the same.

### § 7.3 CONSTRUCTION CHANGE DIRECTIVES

§ 7.3.1 A Construction Change Directive is a written order prepared by the Architect and signed by the Owner and Architect, directing a change in the Work prior to agreement on adjustment, if any, in the Contract Sum or Contract Time, or both. The Owner may by Construction Change Directive, without invalidating the Contract, order changes



in the Work within the general scope of the Contract consisting of additions, deletions or other revisions, the Contract Sum and Contract Time being adjusted accordingly.

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

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

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

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

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

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

§ 7.3.7 If the Contractor does not respond promptly or disagrees with the method for adjustment in the Contract Sum, the Architect shall determine the method and the adjustment on the basis of reasonable expenditures and savings of those performing the Work attributable to the change, including, in case of an increase in the Contract Sum, an amount for overhead and profit as set forth in the Agreement, or if no such amount is set forth in the Agreement, a reasonable amount, allowance of 10% mark-up on Subcontractor's direct cost (actual cost of Labor & Materials) and 15% mark-up on a Contractor's direct (actual cost of Labor & Materials). In such case, and also under Section 7.3.3.3, the Contractor shall keep and present, in such form as the Architect may prescribe, an itemized accounting together with appropriate supporting data. Unless otherwise provided in the Contract Documents, costs for the purposes of this Section 7.3.7 shall be limited to the following:

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

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

§ 7.3.9 Pending final determination of the total cost of a Construction Change Directive to the Owner, the Contractor may request payment for Work completed under the Construction Change Directive in Applications for Payment. The Architect will make an interim determination for purposes of monthly certification for payment for those costs and certify for payment the amount that the Architect determines, in the Architect's professional judgment, to be

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reasonably justified. The Architect's interim determination of cost shall adjust the Contract Sum on the same basis as a Change Order, subject to the right of either party to disagree and assert a Claim in accordance with Article 15.

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

#### § 7.4 MINOR CHANGES IN THE WORK

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

### ARTICLE 8 TIME

#### § 8.1 DEFINITIONS

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

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

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

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

#### § 8.2 PROGRESS AND COMPLETION

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

§ 8.2.2 The Contractor shall not knowingly, except by agreement or instruction of the Owner in writing, prematurely commence operations on the site or elsewhere prior to the effective date of insurance required by Article 11 to be furnished by the Contractor and Owner. The date of commencement of the Work shall not be changed by the effective date of such insurance.

1. No Work shall commence and no materials ordered until the Owner issues the written Notice to Proceed.
2. The Work shall be commenced within ten (10) days of the date of a written Notice to Proceed.

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

#### § 8.3 DELAYS AND EXTENSIONS OF TIME

§ 8.3.1 If the Contractor is delayed at any time in the commencement or progress of the Work by an act or neglect of the Owner or Architect, or of an employee of either, or of a separate contractor employed by the Owner; or by changes ordered in the Work; or by labor disputes, fire, unusual delay in deliveries, unavoidable casualties or other causes beyond the Contractor's control; or by delay authorized by the Owner pending mediation and arbitration; Owner; or by other causes that the Architect determines may justify delay, then the Contract Time shall be extended by Change Order for such reasonable time as the Architect may determine.

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

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

#### § 8.4 LIQUIDATED DAMAGES

8.4.1 Time is the essence of the Contract. Any delay in the completion of the Work as provided for in the Contract Documents will cause inconvenience to the public and loss and damage to the Owner in interest, and in additional administrative, architectural, inspection, and supervision charges.

Therefore, a time charge equal to \$250.00 per calendar day will be made against the Contractor for the entire period that any part of the Work remains uncompleted or any required closeouts documents are not acceptably submitted for more than 30 days after the time specified for the Substantial Completion of the Work, the amount of which shall be deducted by the Owner, and shall be retained by the Owner out of monies otherwise due the Contractor in the final payment, not as a penalty, but as liquidated damages sustained.

## ARTICLE 9 PAYMENTS AND COMPLETION

### § 9.1 CONTRACT SUM

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

### § 9.2 SCHEDULE OF VALUES

Where the Contract is based on a stipulated sum or Guaranteed Maximum Price, the Contractor shall submit to the Architect, before the first Application for Payment, a schedule of values allocating the entire Contract Sum to the various portions of the Work and prepared in such form and supported by such data to substantiate its accuracy as the Architect may require. This schedule, unless objected to by the Architect, shall be used as a basis for reviewing the Contractor's Applications for Payment.

.1 Unit Prices and Allowances, if stated in the Contract Documents, shall be identified within the Schedule of Values.

### § 9.3 APPLICATIONS FOR PAYMENT

~~§ 9.3.1 At least ten days before the date established for each progress payment, the~~ The Contractor shall submit to the Architect an itemized Application for Payment prepared in accordance with the on the first of each month; for Work done through the 25<sup>th</sup> of the preceding month, four (4) original, itemized Applications for Payment for Work completed in accordance with the accepted schedule of values, if required under Section 9.2, 9.2., for completed portions of the Work. Such application shall be notarized, if required, notarized and supported by such data substantiating the Contractor's right to payment as the Owner or Architect may require, such as copies of requisitions from Subcontractors subcontractors and material suppliers, and shall reflect retainage if provided for in the Contract Documents and documents as follows:

.1 Until the final payment is made, the Owner shall pay ninety-seven and one half percent (97.5%) of the amount due the Contractor on account of progress payments (note: the 2-1/2% retainage is calculated by withholding the first 5% of the first 50% of the work completed); and

.2 The Contractor shall provide documentation substantiating that test, inspections and approvals for portions of Work included in an Application for Payment and required by the Contract Documents, or by laws, ordinances, rules, regulations or orders of public authorities having jurisdiction were made at the appropriate time.

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

~~§ 9.3.1.2 Applications for Payment shall not include requests for payment for portions of the Work for which the Contractor does not intend to pay a Subcontractor or material supplier, unless such Work has been performed by others whom the Contractor intends to pay. Such applications may include requests for payment on account of changes in the Work, which have been authorized and approve by properly executed Change Order(s).~~

§ 9.3.2 Unless otherwise provided in the Contract Documents, payments shall be made on account of materials and equipment delivered and suitably stored at the site for subsequent incorporation in the Work. If approved in advance by the Owner, payment may similarly be made for materials and equipment suitably stored off the site at a location agreed upon in writing. Payment for materials and equipment stored on or off the site shall be conditioned upon compliance by the Contractor with procedures satisfactory to the Owner to establish the Owner's title to such materials and equipment or otherwise protect the Owner's interest, and shall include the costs of applicable insurance, storage and transportation to the site for such materials and equipment stored off the site.

§ 9.3.3 The Contractor warrants that title to all Work covered by an Application for Payment will pass to the Owner no later than the time of payment. The Contractor further warrants that upon submittal of an Application for Payment all Work for which Certificates for Payment have been previously issued and payments received from the Owner shall, to the best of the Contractor's knowledge, information and belief, be free and clear of liens, claims, security interests or encumbrances in favor of the Contractor, Subcontractors, material suppliers, or other persons or entities making a claim by reason of having provided labor, materials and equipment relating to the Work.

#### § 9.4 CERTIFICATES FOR PAYMENT

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

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

#### § 9.5 DECISIONS TO WITHHOLD CERTIFICATION

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

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

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

§ 9.5.3 If the Architect withholds certification for payment under Section 9.5.1.3, the Owner may, at its sole option, issue joint checks to the Contractor and to any Subcontractor or material or equipment suppliers to whom the Contractor failed to make payment for Work properly performed or material or equipment suitably delivered. If the

Owner makes payments by joint check, the Owner shall notify the Architect and the Architect will reflect such payment on the next Certificate for Payment.

#### § 9.6 PROGRESS PAYMENTS

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

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

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

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

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

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

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

#### § 9.7 FAILURE OF PAYMENT

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

#### § 9.8 SUBSTANTIAL COMPLETION

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

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

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

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

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

#### § 9.9 PARTIAL OCCUPANCY OR USE

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

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

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

#### § 9.10 FINAL COMPLETION AND FINAL PAYMENT

§ 9.10.1 Upon receipt of the Contractor's written notice that the Work is ready for final inspection and acceptance and upon receipt of a final Application for Payment, the Architect will promptly make such inspection and, when the Architect finds the Work acceptable under the Contract Documents and the Contract fully performed, the Architect will promptly issue a final Certificate for Payment stating that to the best of the Architect's knowledge, information and belief, and on the basis of the Architect's on-site visits and inspections, the Work has been completed in accordance with terms and conditions of the Contract Documents and that the entire balance found to be due the Contractor and noted in the final Certificate is due and payable. The Architect's final Certificate for Payment will constitute a further representation that conditions listed in Section 9.10.2 as precedent to the Contractor's being entitled to final payment have been fulfilled.

§ 9.10.2 Neither final payment nor any remaining retained percentage shall become due until the Contractor submits to the Architect (1) an affidavit that payrolls, bills for materials and equipment, and other indebtedness connected with the Work for which the Owner or the Owner's property might be responsible or encumbered (less amounts withheld by Owner) have been paid or otherwise satisfied, (2) a certificate evidencing that insurance required by the Contract Documents to remain in force after final payment is currently in effect and will not be canceled or allowed

to expire until at least 30 days' prior written notice has been given to the Owner, (3) a written statement that the Contractor knows of no substantial reason that the insurance will not be renewable to cover the period required by the Contract Documents, (4) consent of surety, if any, to final payment and (5), if required by the Owner, other data establishing payment or satisfaction of obligations, such as receipts, releases and waivers of liens, claims, security interests or encumbrances arising out of the Contract, to the extent and in such form as may be designated by the Owner. If a Subcontractor refuses to furnish a release or waiver required by the Owner, the Contractor may furnish a bond satisfactory to the Owner to indemnify the Owner against such lien. If such lien remains unsatisfied after payments are made, the Contractor shall refund to the Owner all money that the Owner may be compelled to pay in discharging such lien, including all costs and reasonable attorneys' fees payment. (5), contractors Affidavit of Release of Liens, (6) separate Releases or Waivers of Liens from Subcontractors and material and equipment suppliers (7) written warranty on Contractor's letterhead covering materials and labor for one year, and (8) the advertisement of completion. The Contractor shall provide proof of publication of Advertisement of completion in a local newspaper for four (4) consecutive weeks, as required in Title 39, Section 39-1-1, Subsection (f), of the Code of Alabama. The final 2.5% retained will not be paid until proof of publication is submitted and all written claims paid in full. This advertisement shall not begin until the City of Mobile has accepted the Project.

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

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

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

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

## ARTICLE 10 PROTECTION OF PERSONS AND PROPERTY

### § 10.1 SAFETY PRECAUTIONS AND PROGRAMS

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

### § 10.2 SAFETY OF PERSONS AND PROPERTY

§ 10.2.1 The Contractor shall comply with all Federal, State and Local law regarding safety including the requirements of the Occupational Safety and Health Act of 1970, Public Law #91-596, latest revision. Contractor shall take all other reasonable precautions for safety of, and shall provide reasonable protection to prevent damage, injury or loss to

1. employees on the Work and other persons who may be affected thereby;
2. the Work and materials and equipment to be incorporated therein, whether in storage on or off the site, under care, custody or control of the Contractor or the Contractor's Subcontractors or Sub-subcontractors; and
3. other property at the site or adjacent thereto, such as trees, shrubs, lawns, walks, pavements, roadways, structures and utilities not designated for removal, relocation or replacement in the course of construction.
4. The Contractor shall be responsible for damage done to buried cables and other utilities by its equipment and shall contact the appropriate offices prior to construction for information depth, etc., of utilities in the area.

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

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

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

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

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

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

#### § 10.2.8 INJURY OR DAMAGE TO PERSON OR PROPERTY

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

#### § 10.3 HAZARDOUS MATERIALS

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

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



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

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

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

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

#### § 10.4 EMERGENCIES

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

### ARTICLE 11 INSURANCE AND BONDS

#### § 11.1 CONTRACTOR'S LIABILITY INSURANCE

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

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

The Contractor shall take out and maintain during the life of the Contract no less than the following amounts of insurance with the Owner named as an additional insured. Contractor shall submit a Certificate of Insurance and a supplemental Attachment for Certificate of Insurance 25-2 (7/90), AIA Document G715, Insurance companies listed as the "Companies Affording Coverage"

shall be authorized by the Secretary of the State of Alabama. Insurance produced out of the State of Alabama must be signed or counter signed by a Resident Agent of Alabama, with the Resident Agent's name, address and telephone number typed or printed on the face of the Certificate of Insurance.

1 Workmen's Compensation and Employer's Liability Insurance: - Statutory-amount and coverage as required by law of place in which the Work is performed.

2 Employee's Liability Insurance shall be provided for limits of liability not less than:

A. Bodily Injury by Accident \$1,000,000 each accident

B. Bodily Injury by Disease \$1,000,000 each employee

3 The Contractor shall provide Broad Form (commonly termed Comprehensive) General Liability Insurance (including premises-product-completed operations) for limits of liability not less than:

A. Bodily Injury \$1,000,000 each person

\$1,000,000 each occurrence

B. Property Damage \$1,000,000 each occurrence; or

C. Bodily Injury & Property Damage \$1,000,000 combined single limit

4 Such comprehensive policy shall include the following:

A. All liability of the Contractor, for the Contractor's Direct Operations.

B. Subcontractor's Operations.

C. Completed Operations Cover, thereby meaning any loss which shall occur after the contract has been completed, but which can be traced back to the Contract.

D. Contractual Liability, meaning thereby; any risk assumed by the Contractor under Hold Harmless Agreements or any other assumption of liability, but specifically Items 11.1.1.8.3G herein below

E. Broad Form Property damage Coverage, including Completed Operations.

F. Personal Injury Liability, with employee's exclusions removed.

G. The Contractor shall indemnify and save harmless the Owner against all loss, cost, or damaged on account of injuries to persons or property occurring in the performance of the Contract, including all reasonable attorney's fees incurred by the Owner, on account thereof.

H. Explosion and Collapse Hazard:  
Included or  Not Applicable.

I. Underground Hazard:  
Included or  Not Applicable.

5 The Contractor shall carry for himself and shall require that all Subcontractors and all Owners of Automobiles or trucks rented or hired on the contract carry until the Contract is completed. Comprehensive Automobile Liability Coverage for Bodily Injury and property Damage in amounts not less than the minimum amounts as indicated. The Contractor and Subcontractor shall also carry for themselves insurance for all non-owned and hired automobile at the limits of liability as indicated below:

A. Bodily Injury \$1,000,000 each person  
\$1,000,000 each occurrence

B. Property damage \$1,000,000 each occurrence; or

C. Bodily Injury & Property damage \$1,000,000 combined single limit

6. Excess Liability: \$2,000,000 limit

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7. Builder's Risk Coverage. The Contractor shall carry for the Owner, himself, and all Subcontractor's a Builder's Risk Policy to cover the full amount of the Contract during construction, fabrications or erection of any equipment.

8. A Surety authorized to do business in the State of Alabama shall furnish the required insurance.

9. The ACCORD™ Certificate must be signed or countersigned by a Licensed Resident Agent of the State of Alabama and the agent's name, address and telephone number must appear on the face of the certificate.

10. The Surety must have a minimum rating of A/Class VI as reported in the latest issue of Best's Key Rating Guide Property-Casualty, published by Alfred M. Best Company, Inc., if the bid price exceeds \$50,000.00

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

§ 11.1.3 Certificates of insurance acceptable to the Owner shall be filed with the Owner prior to commencement of the Work and thereafter upon renewal or replacement of each required policy of insurance. These certificates and the insurance policies required by this Section 11.1 shall contain a provision that coverages afforded under the policies will not be canceled or allowed to expire until at least 30 days' prior written notice has been given to the Owner. An additional certificate evidencing continuation of liability coverage, including coverage for completed operations, shall be submitted with the final Application for Payment as required by Section 9.10.2 and thereafter upon renewal or replacement of such coverage until the expiration of the time required by Section 11.1.2. Information concerning reduction of coverage on account of revised limits or claims paid under the General Aggregate, or both, shall be furnished by the Contractor with reasonable promptness.

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

#### § 11.2 OWNER'S LIABILITY INSURANCE

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

#### § 11.3 PROPERTY INSURANCE

§ 11.3.1 ~~Unless otherwise provided, the Owner~~ The Contractor shall purchase and maintain, in a company or companies lawfully authorized to do business in the jurisdiction in which the Project is located, property insurance written on a builder's risk "all-risk" or equivalent policy form in the amount of the initial Contract Sum, plus value of subsequent Contract Modifications and cost of materials supplied or installed by others, comprising total value for the entire Project at the site on a replacement cost basis without optional ~~deductibles~~ deductibles (See 11.1.1 Supplement Builder's Risk Coverage). Such property insurance shall be maintained, unless otherwise provided in the Contract Documents or otherwise agreed in writing by all persons and entities who are beneficiaries of such insurance, until final payment has been made as provided in Section 9.10 or until no person or entity other than the Owner has an insurable interest in the property required by this Section 11.3 to be covered, whichever is later. This insurance shall include interests of the Owner, the Contractor, Subcontractors and Sub-subcontractors in the Project.

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

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

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

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

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

#### ~~§ 11.3.2 BOILER AND MACHINERY INSURANCE~~

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

#### ~~§ 11.3.3 LOSS OF USE INSURANCE~~

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

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

~~§ 11.3.5 If during the Project construction period the Owner insures properties, real or personal or both, at or adjacent to the site by property insurance under policies separate from those insuring the Project, or if after final payment property insurance is to be provided on the completed Project through a policy or policies other than those insuring the Project during the construction period, the Owner shall waive all rights in accordance with the terms of Section 11.3.7 for damages caused by fire or other causes of loss covered by this separate property insurance. All separate policies shall provide this waiver of subrogation by endorsement or otherwise.~~

~~§ 11.3.6 Before an exposure to loss may occur, the Owner shall file with the Contractor a copy of each policy that includes insurance coverages required by this Section 11.3. Each policy shall contain all generally applicable~~

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conditions, definitions, exclusions and endorsements related to this Project. Each policy shall contain a provision that the policy will not be canceled or allowed to expire, and that its limits will not be reduced, until at least 30 days' prior written notice has been given to the Contractor.

#### **§ 11.3.7 WAIVERS OF SUBROGATION**

The Owner and Contractor waive all rights against (1) each other and any of their subcontractors, sub-subcontractors, agents and employees, each of the other, and (2) the Architect, Architect's consultants, separate contractors described in Article 6, if any, and any of their subcontractors, sub-subcontractors, agents and employees, for damages caused by fire or other causes of loss to the extent covered by property insurance obtained pursuant to this Section 11.3 or other property insurance applicable to the Work, except such rights as they have to proceeds of such insurance held by the Owner as fiduciary. The Owner or Contractor, as appropriate, shall require of the Architect, Architect's consultants, separate contractors described in Article 6, if any, and the subcontractors, sub-subcontractors, agents and employees of any of them, by appropriate agreements, written where legally required for validity, similar waivers each in favor of other parties enumerated herein. The policies shall provide such waivers of subrogation by endorsement or otherwise. A waiver of subrogation shall be effective as to a person or entity even though that person or entity would otherwise have a duty of indemnification, contractual or otherwise, did not pay the insurance premium directly or indirectly, and whether or not the person or entity had an insurable interest in the property damaged.

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

~~§ 11.3.9 If required in writing by a party in interest, the Owner as fiduciary shall, upon occurrence of an insured loss, give bond for proper performance of the Owner's duties. The cost of required bonds shall be charged against proceeds received as fiduciary. The Owner shall deposit in a separate account proceeds so received, which the Owner shall distribute in accordance with such agreement as the parties in interest may reach, or as determined in accordance with the method of binding dispute resolution selected in the Agreement between the Owner and Contractor. If after such loss no other special agreement is made and unless the Owner terminates the Contract for convenience, replacement of damaged property shall be performed by the Contractor after notification of a Change in the Work in accordance with Article 7.~~

~~§ 11.3.10 The Owner as fiduciary shall have power to adjust and settle a loss with insurers unless one of the parties in interest shall object in writing within five days after occurrence of loss to the Owner's exercise of this power; if such objection is made, the dispute shall be resolved in the manner selected by the Owner and Contractor as the method of binding dispute resolution in the Agreement. If the Owner and Contractor have selected arbitration as the method of binding dispute resolution, the Owner as fiduciary shall make settlement with insurers or, in the case of a dispute over distribution of insurance proceeds, in accordance with the directions of the arbitrators.~~

#### **§ 11.4 PERFORMANCE BOND AND PAYMENT BOND**

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

~~§ 11.4.2 Upon the request of any person or entity appearing to be a potential beneficiary of bonds covering payment of obligations arising under the Contract, the Contractor shall promptly furnish a copy of the bonds or shall authorize a copy to be furnished.~~

~~11.4.3. The Labor and Material Payment Bond and Performance Bond shall each be for one hundred percent (100%) of the Contract price if the Contract Price is greater than \$10,000.00~~

- ~~1. Cost of the bonds shall be included in the bid.~~
- ~~2. Bonds shall be submitted with the executed agreement on provided form(s).~~

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3. Power of Attorney is required for both bonds.
4. A Surety authorized to do business in the State of Alabama shall furnish both bonds.
5. A Surety licensed to do business in the State of Alabama must execute the bonds.
6. Each bond must be signed or countersigned by a Resident Agent of the State of Alabama.
7. The Surety must have a minimum rating of A/Class VI as reported in the latest issue of Best's Key Rating Guide Property-Casualty, published by Alfred M. Best Company, Inc., if the bid price exceeds \$50,000.00.
8. The Surety company shall be required to execute AIA Document G-707, "Consent of Surety to Final Payment" prior to Final Payment being made to the Contractor.

**ARTICLE 12 UNCOVERING AND CORRECTION OF WORK**

**§ 12.1 UNCOVERING OF WORK**

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

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

**§ 12.2 CORRECTION OF WORK**

**§ 12.2.1 BEFORE OR AFTER SUBSTANTIAL COMPLETION**

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

**§ 12.2.2 AFTER SUBSTANTIAL COMPLETION**

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

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

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

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

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

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

### § 12.3 ACCEPTANCE OF NONCONFORMING WORK

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

## ARTICLE 13 MISCELLANEOUS PROVISIONS

### § 13.1 GOVERNING LAW

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

State of Alabama.

### § 13.2 SUCCESSORS AND ASSIGNS

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

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

13.2.3 No assignment of the Contract shall be made without the written permission of Surety providing bonding and the City of Mobile.

### § 13.3 WRITTEN NOTICE

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

### § 13.4 RIGHTS AND REMEDIES

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

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

### § 13.5 TESTS AND INSPECTIONS

§ 13.5.1 Tests, inspections and approvals of portions of the Work shall be made as required by the Contract Documents and by applicable laws, statutes, ordinances, codes, rules and regulations or lawful orders of public authorities. Unless otherwise provided, the Contractor shall make arrangements for such tests, inspections and approvals with an independent testing laboratory or entity acceptable to the Owner, or with the appropriate public



authority, and shall bear all related costs of tests, inspections and approvals. The Contractor shall give the Architect timely notice of when and where tests and inspections are to be made so that the Architect may be present for such procedures. The Owner shall bear costs of (1) tests, inspections or approvals that do not become requirements until after bids are received or negotiations concluded, and (2) tests, inspections or approvals where building codes or applicable laws or regulations prohibit the Owner from delegating their cost to the Contractor.

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

§ 13.5.3 If such procedures for testing, inspection or approval under Sections 13.5.1 and 13.5.2 reveal failure of the portions of the Work to comply with requirements established by the Contract Documents, all costs made necessary by such failure including those of repeated procedures and compensation for the Architect's services and expenses shall be at the Contractor's expense.

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

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

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

13.5.7 Test, inspections or approvals made in addition to the Architects normal design and contract administration services caused by the Contractor shall be paid for by the Contractor. The normal service schedule is contained in Article 2.8.1 of AIA B102-2007 as amended by the Owner and is available to Contractor on request.

13.5.8 The Contractor must call the Urban Development Department of the City of Mobile for their inspections and approval at the times required by the Urban Development Department, as well as notify the Architect, Consulting Engineer, and/or Test Laboratory, for inspection and approval of sub-grade conditions, under slab and footing Conditions, vapor barrier placement, reinforcing steel placement, all structural connections, electrical, mechanical, etc. None of the above will be accepted that have been covered up before receiving approval of the Architect or his Consultant.

#### § 13.6 INTEREST

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

#### § 13.7 TIME LIMITS ON CLAIMS

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

#### 13.8 COMMENCEMENT OF STATUTORY LIMITATION PERIOD

##### 13.8.1 As between the Owner and Contractor:

1. Before Substantial Completion. As to acts or failures to act occurring prior to the relevant date of Substantial Completion, any applicable statute of limitations shall commence to run and any alleged cause of action shall be deemed to have accrued in any and all events not later than such date of Substantial Completion;



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

### 13.9 SUBSTITUTION OF MATERIALS AND EQUIPMENT

13.9.1 Whenever a material, article or piece of equipment is identified on the Drawings or in the Specifications by reference to manufacturer's or vendor's names, trade names, catalog numbers, or the like, it is so identified for the purpose of establishing a standard, and any material, article, or piece of equipment of other manufacturers or vendors which will perform adequately the duties imposed by the general design will be considered equally acceptable provided the material, article, or piece of equipment so proposed is, in the opinion of the Architect, of equal substance, appearance and function. It shall not be purchased or installed by the Contractor without the Architect's written approval.

## **ARTICLE 14 TERMINATION OR SUSPENSION OF THE CONTRACT**

### **§ 14.1 TERMINATION BY THE CONTRACTOR**

**§ 14.1.1** The Contractor may terminate the Contract if the Work is stopped for a period of 30 consecutive days through no act or fault of the Contractor or a Subcontractor, Sub-subcontractor or their agents or employees or any other persons or entities performing portions of the Work under direct or indirect contract with the Contractor, for any of the following reasons:

1. Issuance of an order of a court or other public authority having jurisdiction that requires all Work to be stopped;
2. An act of government, such as a declaration of national emergency that requires all Work to be stopped;
3. Because the Architect has not issued a Certificate for Payment and has not notified the Contractor of the reason for withholding certification as provided in Section 9.4.1, or because the Owner has not made payment on a Certificate for Payment within the time stated in the Contract Documents; or
4. The Owner has failed to furnish to the Contractor promptly, upon the Contractor's request, reasonable evidence as required by Section 2.2.1.

**§ 14.1.2** The Contractor may terminate the Contract if, through no act or fault of the Contractor or a Subcontractor, Sub-subcontractor or their agents or employees or any other persons or entities performing portions of the Work under direct or indirect contract with the Contractor, repeated suspensions, delays or interruptions of the entire Work by the Owner as described in Section 14.3 constitute in the aggregate more than 100 percent of the total number of days scheduled for completion, or 120 days in any 365-day period, whichever is less.

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

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

## § 14.2 TERMINATION BY THE OWNER FOR CAUSE

§ 14.2.1 The Owner may terminate the Contract if the Contractor

- .1 repeatedly refuses or fails to supply enough properly skilled workers or proper materials;
- .2 fails to make payment to Subcontractors for materials or labor in accordance with the respective agreements between the Contractor and the Subcontractors;
- .3 repeatedly disregards applicable laws, statutes, ordinances, codes, rules and regulations, or lawful orders of a public authority; or
- .4 otherwise is guilty of substantial breach of a provision of the Contract Documents.

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

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

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

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

## § 14.3 SUSPENSION BY THE OWNER FOR CONVENIENCE

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

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

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

## § 14.4 TERMINATION BY THE OWNER FOR CONVENIENCE

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

§ 14.4.2 Upon receipt of written notice from the Owner of such termination for the Owner's convenience, the Contractor shall

- .1 cease operations as directed by the Owner in the notice;
- .2 take actions necessary, or that the Owner may direct, for the protection and preservation of the Work; and
- .3 except for Work directed to be performed prior to the effective date of termination stated in the notice, terminate all existing subcontracts and purchase orders and enter into no further subcontracts and purchase orders.

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

## ARTICLE 15 CLAIMS AND DISPUTES

### § 15.1 CLAIMS

#### § 15.1.1 DEFINITION

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

#### § 15.1.2 NOTICE OF CLAIMS

Claims by either the Owner or Contractor must be initiated by written notice to the other party and to the Initial Decision Maker with a copy sent to the Architect, if the Architect is not serving as the Initial Decision Maker. ~~Claims by either party must be initiated within 21 days after occurrence of the event giving rise to such Claim or within 21 days after the claimant first recognizes acting with due diligence, reasonable should have first recognized the condition giving rise to the Claim, whichever is later. Claims must be initiated by written notice to the Architect and the other party.~~

#### § 15.1.3 CONTINUING CONTRACT PERFORMANCE

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

#### § 15.1.4 CLAIMS FOR ADDITIONAL COST

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

#### § 15.1.5 CLAIMS FOR ADDITIONAL TIME

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

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

#### § 15.1.6 CLAIMS FOR CONSEQUENTIAL DAMAGES

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

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

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

### § 15.2 INITIAL DECISION

§ 15.2.1 Claims, excluding those arising under Sections 10.3, 10.4, 11.3.9, and 11.3.10, shall be referred to the Initial Decision Maker for initial decision. The Architect will serve as the Initial Decision Maker, unless otherwise indicated in the Agreement. Except for those Claims excluded by this Section 15.2.1, an initial decision shall be required as a condition precedent to mediation of any Claim arising prior to the date final payment is due, unless 30 days have passed after the Claim has been referred to the Initial Decision Maker with no decision having been

rendered. Unless the Initial Decision Maker and all affected parties agree, the Initial Decision Maker will not decide disputes between the Contractor and persons or entities other than the Owner.

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

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

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

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

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

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

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

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

### § 15.3 MEDIATION

§ 15.3.1 Claims, disputes, or other matters in controversy arising out of or related to the Contract except those waived as provided for in Sections 9.10.4, 9.10.5, and 15.1.6 shall not be subject to mediation as a condition precedent to binding dispute resolution.

~~§ 15.3.2 The parties shall endeavor to resolve their Claims by mediation which, unless the parties mutually agree otherwise, shall be administered by the American Arbitration Association in accordance with its Construction Industry Mediation Procedures in effect on the date of the Agreement. A request for mediation shall be made in~~

Init.

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writing, delivered to the other party to the Contract, and filed with the person or entity administering the mediation. The request may be made concurrently with the filing of binding dispute resolution proceedings but, in such event, mediation shall proceed in advance of binding dispute resolution proceedings, which shall be stayed pending mediation for a period of 60 days from the date of filing, unless stayed for a longer period by agreement of the parties or court order. If an arbitration is stayed pursuant to this Section 15.3.2, the parties may nonetheless proceed to the selection of the arbitrator(s) and agree upon a schedule for later proceedings.

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

#### ~~§ 15.4~~ ARBITRATION

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

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

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

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

#### ~~§ 15.4.4~~ CONSOLIDATION OR JOINDER

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

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

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

## SECTION 01010

### SUMMARY OF THE WORK

#### PART 1 GENERAL

##### 1.1 SECTION INCLUDES

- A. Summary of Work: Contract, contractor use of premises.
- B. Contract Considerations: Contingency allowance, schedule of values, applications for payment, change procedures, alternates.
- C. Coordination and Meetings: Coordination, field engineering, cutting and patching, meetings, progress meetings, examination, preparation.
- D. Submittals: Submittal procedures, construction progress schedules, proposed products list, shop drawings, product data, samples, manufacturers' installation instructions, manufacturers' certificates.
- E. Quality Control: Quality assurance - control of installation, Tolerances, References, Mock-ups, Manufacturers' field services and reports.
- F. Construction Facilities and Temporary Controls: power, temporary lighting for construction purposes, heat, temporary ventilation, telephone service, water service, temporary sanitary facilities, barriers and fencing, exterior enclosures, protection of installed work, security, access roads, parking, progress cleaning and waste removal, project identification, field offices and sheds, removal of utilities, facilities, and controls.
- G. Material and Equipment: Products, transportation, handling, storage, and protection, products options, substitutions.
- H. Contract Closeout: Contract closeout procedures, final cleaning, adjusting, project record documents, operation and maintenance data, spare parts and maintenance materials, warranties.

##### 1.2 CONTRACT

- A. Summary of Work:  
Base Bid: The Work consists of providing all necessary materials and rigging required to replace the chiller as specified in the consultant drawings attached to this project manual including all associated other mechanical and electrical improvements. The replacement of the first chiller shall be coordinated with the installation of this chiller. The first chiller is grant funded and shall be replaced under the project named *History Museum – Chiller Replacement MU-013-24*.

This project includes 1 Alternate:

1. Replace the Boiler as specified in the specifications and drawings provided by the Consultant in the project manual.

- B. Contract Description: Stipulated sum.
- C. Equipment required for the project shall be submitted to the engineer for approval within fifteen (15) calendar days of Notice to Proceed. After the approved submittals are returned, the equipment shall be ordered within ten (10) days of approval. Work shall be completed within fifteen (15) calendar days from the date of equipment delivery. Substitutions on named equipment shall be considered pre-bid only.

### 1.3 CONTRACTOR USE OF PREMISES

- A. Limit use of premises to allow continued Owner occupancy. All facilities shall remain in use except the immediate work area for this project. Obey all Facility Regulations and coordinate access and schedule of work with Project Manager.
- B. Chiller downtime will be tightly regulated and may not be longer than 8 hours

### 1.4 CONTINGENCY ALLOWANCE

- A. Include in the Contract the stipulated amount for use upon Owner's instruction.
- B. Contractor's costs for products, delivery, installation, labor, insurance, payroll, taxes, bonding, equipment rental, overhead and profit are included in Change or Field Orders authorizing expenditure of funds from this Contingency Allowance.

### 1.5 SCHEDULE OF VALUES

- A. Submit Schedule of Values on AIA Form G703 within five (5) calendar days of notification of project award.

### 1.6 APPLICATIONS FOR PAYMENT

- A. Submit two signed and notarized originals of each application on AIA Form G702 and AIA Form G703. Submit Lien Release Waivers, including from subcontractors and major suppliers, with each pay application. Submit DBE Utilization Form with each pay application.
- B. Content and Format: Utilize Schedule of Values, AIA Form G703, for listing items in Application for Payment.
- C. Payment Period: Monthly, except for final payment of retainage after all Close Out documents are submitted and approved.

#### 1.7 CHANGE ORDER PROCEDURES

- A. All contract changes involving a change in scope, payment and/or time shall be made by change order.
- B. Stipulated Sum/Price Change Order: Based on Proposal Request and Contractor's fixed price quotation or Contractor's request for a Change Order as approved by Owner.

#### 1.8 ALTERNATE BID ITEMS

- A. Alternates quoted on Bid Form, if any, will be reviewed and accepted in the order listed.
- B. Coordinate related Work and modify surrounding Work as required.
- C. Schedule of Alternates: Listed on bid form, as applicable.

#### 1.9 COORDINATION

- A. Coordinate scheduling, submittals, and Work at the facility to ensure an efficient and orderly sequence and to facilitate the continued uninterrupted use of the Facility.
- B. Request Utility interruptions at least 72 hours in advance. Note that due to scheduling in the facility, utility interruptions must be approved.

#### 1.10 FIELD ENGINEERING

- A. Establish elevations, lines, and levels and certify that elevations and locations of the Work conform to the Contract Documents. Verify existing conditions.
- B. Contractor shall field verify all measurements and quantities required for a complete installation.

#### 1.11 PRECONSTRUCTION MEETINGS

- A. Owner will schedule a pre-construction meeting after contract award for all affected parties.

#### 1.12 PROGRESS MEETINGS

- A. Schedule and administer meetings throughout progress of the Work at pre-approved intervals at least every week while work on site is proceeding.
- B. Preside at meetings, record minutes, and distribute copies within two days to those affected by decisions made.



#### 1.13 CONSTRUCTION PROGRESS SCHEDULES

- A. Submit initial progress schedule in duplicate within five (5) calendar days after date of notice of award of project for Project Manager's review.
- B. Submit revised schedules with each Application for Payment, identifying changes since previous version. Indicate estimated percentage of completion for each item of Work at each submission.

#### 1.14 SHOP DRAWINGS

- A. Shop Drawings for Review: Submit to Project Manager/Engineer for review for the limited purpose of checking for conformance with information given and the design concept expressed in the Contract Documents.
- B. Submit electronic submittals to the Project Manager. Close Out documents shall include electronic and hard copies of all submittals.

#### 1.15 QUALITY ASSURANCE - 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' written instructions.
- C. Comply with specified standards as minimum quality for the Work except when more stringent tolerances, codes, or specified requirements indicate higher standards or more precise workmanship.
- D. Supply certification from manufacturer that the installed Work meets or exceeds all manufacturers' requirements.

#### 1.16 EXAMINATION

- A. Verify that existing site conditions and subsurfaces are acceptable for subsequent Work. Beginning new Work means acceptance of existing conditions.
- B. Verify that utility services are available, of the correct characteristics, and in the correct location.

#### 1.17 PREPARATION

- A. Prepare surfaces prior to applying next material installation.

#### 1.18 TOLERANCES

- A. Monitor fabrication and installation tolerance control of installed Products over suppliers, manufacturers, Products, site conditions, and workmanship, to produce acceptable Work. Do not permit tolerances to accumulate. Comply fully with manufacturers' tolerances.

#### 1.19 REFERENCES

- A. Conform to reference standards by date of issue current as of date of Contract Documents.
- B. Should specified reference standard conflict with Contract Documents, request clarification from Project Manager before proceeding.

#### 1.20 ELECTRICITY

- A. Unless otherwise provided for, Contractor shall be allowed to utilize power from the facility in moderate amounts.
- B. Provide power outlets for construction operations, branch wiring, distribution boxes, and flexible power cords as required.

#### 1.21 TEMPORARY LIGHTING FOR CONSTRUCTION PURPOSES

- A. Provide and maintain temporary lighting for construction operations as may be required.
- B. Provide branch wiring from power source to distribution boxes with lighting conductors, pigtails, and lamps as required.

#### 1.22 WATER SERVICE

- A. Owner shall provide suitable potable water in moderate quantities without cost to the Contractor.

#### 1.23 TEMPORARY SANITARY FACILITIES

- A. Contractor shall provide his own temporary facilities. Use of facility facilities is not possible.

#### 1.24 BARRIERS AND FENCING

- A. Provide barriers and fencing as needed to prevent unauthorized entry to construction areas and to protect existing facilities and adjacent properties from

dust, debris and damage.

1.25 PROTECTION OF INSTALLED WORK

- A. Protect installed Work and provide special protection where specified in individual specification sections. Prohibit traffic or storage upon grass or paving surfaces.

1.26 SECURITY

- A. Provide security and facilities to protect Work and existing facilities from unauthorized entry, vandalism, or theft.

1.27 ACCESS ROADS & HAULING

- A. Maintain temporary access routes through the public thoroughfare and parking areas to serve the construction area as required without obstructing traffic or blocking access for facility staff or participants. Provide drive pads as required.
- B. Restore site to pre-construction condition. Fill ruts, replace broken or damaged amenities, sod disturbed areas.

1.28 PARKING

- A. Arrange for temporary parking areas to accommodate construction personnel on site. Do not block traffic.

1.29 PROGRESS CLEANING AND WASTE REMOVAL

- A. Collect and maintain work areas free of waste materials, debris, and rubbish on a daily basis. Maintain site in a clean and orderly condition. Provide refuse containers and dispose of construction debris legally off site. The Owner may request load tickets from landfills permitted to accept construction debris.

1.30 REMOVAL OF UTILITIES, FACILITIES, AND CONTROLS

- A. Remove temporary utilities, equipment, facilities and materials, prior to Substantial Completion review.
- B. Clean and repair damage caused by installation or use of temporary work.
- C. Restore existing facilities used during construction to original condition. Restore permanent facilities used during construction to specified condition.

1.31 PRODUCTS

- A. Products: Means new material, machinery, components, equipment, fixtures, and systems forming the Work but does not include machinery and equipment used

for preparation, fabrication, conveying and erection of the Work.

1.32 TRANSPORTATION, HANDLING, STORAGE AND PROTECTION

- A. Transport, handle, store, and protect Products in accordance with manufacturers' instructions.

1.33 PRODUCT OPTIONS

- A. Products Specified: **Equal alternate products to be approved by Owner as PRE-BID Substitutions. Submit product data as required in SUBSTITUTIONS.**

1.34 SUBSTITUTIONS

- A. **Architect/Engineer will consider requests for Substitutions only Pre-Bid. Submit requests by November 13, 2024 by 3:00pm via e-mail to Project Manager jody.russell@cityofmobile.org.**
- B. Document each request with complete backup data substantiating compliance of proposed Substitution with all characteristics of the materials specified in the Contract Documents. Comply with procedures and documentation as per Section 01635 Substitutions.
- C. Acceptance or Rejection of Pre-Bid Substitution Requests will be issued by Addendum.

1.35 FINAL CLEANING

- A. Execute final cleaning prior to final inspection of work area. User may occupy portions of the work incrementally as the work is completed and accepted. Entire project to be ready for use by User once all areas of work are completed.
- B. Clean debris from site and drainage systems.
- C. Remove waste and surplus materials, rubbish, and construction facilities from the facility and the site. Leave site in raked and smooth condition.

1.36 PROJECT RECORD DOCUMENTS

- A. Maintain on site one set of Contract Documents to be utilized only for record documents.
- B. Record actual revisions to the Work. Record information concurrent with construction progress.
- C. Specifications: Legibly mark and record at each Product section a description of

actual Products installed.

- D. Record Documents and Shop Drawings: Legibly mark each item to record actual construction.
- E. Submit documents to Project Manager with claim for final Application for Payment.
- F. Submit 2 paper copies and 1 disc with pdf copies to include:
  - a. As built drawings and specifications
  - b. Approved submittals
  - c. Warrantees and guarantees
  - d. Certificate of Occupancy or Letter of Completion from Permitting Department or other agencies, as applicable.

### 1.37 WARRANTIES

- A. Product and Manufacturer's Warranties shall be provided per specifications.
- B. In addition, all materials and labor shall be warranted for a minimum of ten (10) years after Substantial Completion of the entire project. Contractor to promptly repair all deficiencies within that time. A warranty inspection shall be scheduled by the Owner, with the Contractor and Owner's representative, before the end of the warranty period, in order to review the work and note deficiencies for the Contractor to correct. Said meeting may be waived if no deficiencies are noted.

PART 2 PRODUCTS  
Not Used.

PART 3 EXECUTION  
Not Used.

END OF SECTION

## SECTION 01210

### ALLOWANCES

#### PART 1 GENERAL

##### 1.1 RELATED DOCUMENTS

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

##### 1.2 SUMMARY

###### A. Allowances will be utilized to:

1. Defer selection of certain items until more information is available.
2. Provide for discretionary installation of materials where exact and specific conditions cannot be determined in advance.
3. Provide for the discretionary use of labor where tasks and time frames cannot be determined in advance.

###### B. Include in Total Bid a stipulated lump sum allowance amount as specified in this Section.

##### 1.3 ALLOWANCE

A. Include in the Total Base Quote a stipulated allowance(s) as indicated on the Quote Form for the use upon Owner's instruction. Upon Contractor inspection and Owner approval, any additional work that may be required, but not covered in the original Scope of Work (Base Scope Quote), shall be added to the scope and cost charged against the Contingency Allowance. Contractor's cost for products, delivery, installation labor, insurance, payroll, bonding, equipment rental and overhead and profit will be included in the Allowances. Contractor's markups on allowances are limited to 10% for subcontractor's work and 15% for his own forces.

B. Use of Contingency Allowance(s) shall be approved in writing by the Owner before any materials are ordered or work performed.

C. Upon completion of the Work, any unused portion of the Allowances shall be credited back to the City of Mobile in the form of a Change Order.

D. Contractor shall provide a detailed proposal of the work with overhead and profit broken out. Such proposals shall include proposals from subcontractors, also showing their detailed proposal with overhead and profit broken out.

#### 1.4 SELECTION AND PURCHASE

- A. Advise the Project Manager when final selection and purchase of allowance item must be complete to avoid delay.

#### 1.5 SUBMITTALS

- A. Request for Use of Allowance: Submit proposals for approval that detail and break out costs for contractors and subcontractor's markups.
- B. After Use of Allowance: Submit invoices to show quantity delivered to the site for each allowance.

#### PART 2 PRODUCTS

Not used

#### PART 3 EXECUTION

##### 3.1 INSPECTION

- A. Promptly inspect all Allowance items upon delivery. Immediately report any shortage, damage, or defects to Project Manager.

##### 3.2 PREPARATION

- A. Coordinate materials and installation to assure that each item is integrated with related construction activities.

##### 3.3 ALLOWANCE SCHEDULE

- A. Include as a Contingency Allowance the lump sum amount of twenty-five thousand Dollars (\$25,000.00).

END OF SECTION

## SECTION 01310 - PROJECT MANAGEMENT AND COORDINATION

### PART 1 - GENERAL

#### 1.1 RELATED DOCUMENTS

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

#### 1.2 SUMMARY

- A. Section includes administrative provisions for coordinating construction operations on Project including, but not limited to, the following:
  - 1. General project coordination procedures.
  - 2. Administrative and supervisory personnel.
  - 3. Coordination drawings.
  - 4. Requests for Information (RFIs).
  - 5. Project meetings.
- B. Each contractor shall participate in coordination requirements. Certain areas of responsibility are assigned to a specific contractor.
- C. Related Sections:
  - 1. Division 1 Section "Execution Requirements"
  - 2. Division 1 Section "Project Record Drawings" for coordinating closeout of the Contract.

#### 1.3 DEFINITIONS

- A. RFI: Request from Owner, Architect, or Contractor seeking information from each other during construction.

#### 1.4 COORDINATION

- A. Contractor shall be responsible for coordinating all trades of his contract, Owners Contractors, coordinating construction sequences and schedules, and coordinating actual installed location and interface of work.
- B. Contractor shall supervise and direct the development of coordination drawings showing comprehensive coordination and integration of all Work of this project including, but not limited to, structural, architectural mechanical, plumbing, fire protection, electrical disciplines, and Owners Contractors.



- C. Coordination drawings are intended to assist Contractor and all trades during construction and may be used to supplement shop drawings, record drawings, and other required submittals.
- D. Coordination: Each contractor shall supervise and direct construction operations with those of subcontractors and entities to ensure efficient and orderly installation of each part of the Work. Each contractor shall coordinate its operations with operations, included in different Sections that depend on each other for proper installation, connection, and operation.
  - 1. Schedule construction operations in sequence required to obtain the best results where installation of one part of the Work depends on installation of other components, before or after its own installation.
  - 2. Coordinate installation of different components with other contractors to ensure maximum performance and accessibility for required maintenance, service, and repair.
  - 3. Make adequate provisions to accommodate items scheduled for later installation.
- E. Prepare memoranda for distribution to each party involved, outlining special procedures required for coordination. Include such items as required notices, reports, and list of attendees at meetings.
  - 1. Prepare similar memoranda for Owner and separate contractors if coordination of their Work is required.
- F. Administrative Procedures: Coordinate scheduling and timing of required administrative procedures with other construction activities to avoid conflicts and to ensure orderly progress of the Work. Such administrative activities include, but are not limited to, the following:
  - 1. Preparation of Contractor's construction schedule.
  - 2. Preparation of the schedule of values.
  - 3. Installation and removal of temporary facilities and controls.
  - 4. Delivery and processing of submittals.
  - 5. Progress meetings.
  - 6. Preinstallation conferences.
  - 7. Project closeout activities.
  - 8. Startup and adjustment of systems.
  - 9. Project closeout activities.

## 1.5 KEY PERSONNEL

- A. Key Personnel Names: Within 5 days of Notice to Proceed, submit a list of key personnel assignments, including superintendent and other personnel in attendance at Project site. Identify individuals and their duties and responsibilities; list addresses and telephone numbers, including home, office, and cellular telephone numbers and email addresses. Provide names, addresses, and telephone numbers of individuals assigned as standbys in the absence of individuals assigned to Project.
  - 1. Post copies of list at site. Keep list current at all times.

## 1.6 REQUESTS FOR INFORMATION (RFIs)

- A. General: Immediately on discovery of the need for additional information or interpretation of the Contract Documents, Contractor shall prepare and submit an RFI in the form specified.
  - 1. Architect will return RFIs submitted to Architect by other entities controlled by Contractor with no response.
  - 2. Coordinate and submit RFIs in a prompt manner so as to avoid delays in Contractor's work or work of subcontractors.

## 1.7 PROJECT MEETINGS

- A. General: Attendance of subcontractors and superintendent at a weekly progress meeting is required.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 01310

SECTION 01320  
CONSTRUCTION PROGRESS DOCUMENTATION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. Section includes administrative and procedural requirements for documenting the progress of construction during performance of the Work, including the following:
  - 1. Start-up construction schedule.
  - 2. Contractor's construction schedule.
  - 3. Field condition reports.
  - 4. Special reports.

1.3 INFORMATIONAL SUBMITTALS

- A. Format for Submittals: Submit required submittals in the following format:
  - 1. PDF electronic file.
- B. Start-up construction schedule.
- C. Contractor's Construction Schedule: Initial schedule, of size required to display entire schedule for entire construction period.
- D. Field Condition Reports: Submit at time of discovery of differing conditions.
- E. Special Reports: Submit at time of unusual event.
- F. Existing Condition Photos: Submit prior to onsite mobilization to record existing conditions. If, during construction, damage occurs by others, notify Project Manager right away.

PART 2 - PRODUCTS

2.1 CONTRACTOR'S CONSTRUCTION SCHEDULE, GENERAL

- A. Time Frame: Extend schedule from date established for the Notice to Proceed to date of final completion.

- B. Activities: Treat each story or separate area as a separate numbered activity for each principal element of the Work. Show the following:
1. Activity Duration
  2. Procurement Activities: Include procurement process activities for long lead items and major items, requiring a cycle of more than 60 days, as separate activities in schedule. Procurement cycle activities include, but are not limited to, submittals, approvals, purchasing, fabrication, and delivery.
  3. Submittal Review Time: Include review and resubmittal times indicated in Division 1 Section "Submittal Procedures" in schedule. Coordinate submittal review times in Contractor's construction schedule with submittal schedule.
  4. Startup and Testing Time: Include not less than 15 days for startup, testing and training.
  5. Substantial Completion: Indicate completion in advance of date established for Substantial Completion, and allow time for Architect's administrative procedures necessary for certification of Substantial Completion.
- C. Constraints: Include constraints and work restrictions indicated in the Contract Documents and as follows in schedule, and show how the sequence of the Work is affected.
1. Phasing: Arrange list of activities on schedule by phase.
  2. Work Restrictions: Show the effect of the following items on the schedule:
    - a. Coordination with existing construction.
    - b. Limitations of continued occupancies.
    - c. Uninterruptible services.
    - d. Partial occupancy before Substantial Completion.
    - e. Use of premises restrictions.
    - f. Provisions for future construction.
    - g. Seasonal variations.
    - h. Environmental control.
- D. Milestones: Include milestones indicated in the Contract Documents in schedule, including, but not limited to, the Notice to Proceed, Substantial Completion, and final completion.
- E. Upcoming Work Summary: Prepare summary report indicating activities scheduled to occur or commence prior to submittal of next schedule update. Summarize the following issues:
1. Unresolved issues.
  2. Unanswered RFIs.
  3. Rejected or unreturned submittals.
  4. Notations on returned submittals.

## 2.2 START-UP CONSTRUCTION SCHEDULE

- A. Bar-Chart Schedule: Submit start-up horizontal bar-chart-type construction schedule within seven days of date established for the Notice to Proceed .

- B. Preparation: Indicate each significant construction activity separately. Identify first workday of each week with a continuous vertical line. Outline significant construction activities for first 90 days of construction.

### 2.3 CONTRACTOR'S CONSTRUCTION SCHEDULE (CPM SCHEDULE)

- A. CPM Schedule Preparation: Prepare a list of all activities required to complete the Work. Using the start-up network diagram, prepare a skeleton network to identify probable critical paths.
  - 1. Activities: Indicate the estimated time duration, sequence requirements, and relationship of each activity in relation to other activities. Include estimated time frames for the following activities:
    - a. Preparation and processing of submittals.
    - b. Mobilization and demobilization.
    - c. Purchase of materials.
    - d. Delivery.
    - e. Fabrication.
    - f. Utility interruptions.
    - g. Installation.
    - h. Work by Owner that may affect or be affected by Contractor's activities.
    - i. Testing and commissioning.
    - j. Punch list and final completion.
    - k. Activities occurring following final completion.
  - 2. Critical Path Activities: Identify critical path activities, including those for interim completion dates. Scheduled start and completion dates shall be consistent with Contract milestone dates.
  - 3. Format: Mark the critical path. Locate the critical path near center of network; locate paths with most float near the edges.
- B. Contract Modifications: For each proposed contract modification and concurrent with its submission, prepare a time-impact analysis using a network fragment to demonstrate the effect of the proposed change on the overall project schedule.
- C. Initial Issue of Schedule: Identify critical activities. Prepare tabulated reports showing the following:
  - 1. Contractor or subcontractor and the Work or activity.
  - 2. Description of activity.
  - 3. Principal events of activity.
  - 4. Immediate preceding and succeeding activities.
  - 5. Early and late start dates.
  - 6. Early and late finish dates.
  - 7. Activity duration in workdays.
- D. Schedule Updating: Submit at each weekly coordination meeting.
  - 1. Identification of activities that have changed.

2. Changes in early and late start dates.
3. Changes in early and late finish dates.
4. Changes in activity durations in workdays.
5. Changes in the critical path.
6. Changes in total float or slack time.
7. Changes in the Contract Time.

Note: The Contractor may be allowed additional construction days due to inclement conditions ("rain days") only as such are appropriately documented and are in excess of the NOAA/National Weather Service average (previous 5 years) for the given month. A "rain day" is defined as more than a "trace" (0.10") of rain falling within a given 24 hour period. The Contractor shall provide documentation and formally request any "rain days" they feel are legitimately due. Documentation shall be submitted to the Project Manager, in writing, within ten (10) calendar days of the rain event. Documentation shall include trades and activities that were adversely impacted by the weather.

## 2.4 REPORTS

- A. Field Condition Reports: Immediately on discovery of a difference between field conditions and the Contract Documents, prepare and submit a detailed report. Submit with a Request for Information. Include a detailed description of the differing conditions, together with recommendations for changing the Contract Documents.

## 2.5 SPECIAL REPORTS

- A. General: Submit special reports directly to Owner within one day of an occurrence. Distribute copies of report to parties affected by the occurrence.
- B. Reporting Unusual Events: When an event of an unusual and significant nature occurs at Project site, whether or not related directly to the Work, prepare and submit a special report. List chain of events, persons participating, response by Contractor's personnel, evaluation of results or effects, and similar pertinent information. Advise Owner in advance when these events are known or predictable.

## PART 3 - EXECUTION

Not Used

END OF SECTION

## SECTION 01330 SUBMITTAL PROCEDURES

### PART 1 GENERAL

#### 1.1 RELATED DOCUMENTS

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

#### 1.2 SUMMARY

- A. Section Includes:
  - 1. Submittal Procedure
  - 2. Submittal Schedule
  - 3. Shop Drawings
  - 4. Product Data
  - 5. Samples

#### 1.3 SUBMITTAL PROCEDURES

- A. Number each submittal with Project Manual specification Section number and sequential number within each section. Number resubmittals with original number and an alphabetic suffix.
- B. Identify Project, Contractor, Subcontractor or supplier, pertinent Drawing sheet and detail numbers, and specification Section number, as appropriate.
- C. Submit all submittals simultaneously for each Produce or Specification Section. Where multiple Products function as an assembly, group submittals for all related Products into single submittal.
- D. Project Manager will not review incomplete submittals.
- E. Apply Contractor's stamp, signed or initialed certifying that:
  - 1. Submittal was reviewed.
  - 2. Products, field dimensions, and adjacent construction have been verified.
  - 3. Information has been coordinated with requirements for Work and Contract Documents.
- F. Schedule submittals to expedite the Project, and deliver to Project Manager. Coordinate submittal of related items.
- G. For each submittal, allow 10 days for Project Manager's review, excluding delivery time to and from Contractor. Identify variations from Contract Documents and Product or system limitations that may be detrimental to successful performance of completed Work.
- H. Revise and resubmit submittals when required; identify all changes made since previous submittals.

- I. Distribute copies of reviewed submittals to concerned parties and to Project Record Documents file. Instruct parties to promptly report any inability to comply with provisions.

#### 1.4 SUBMITTAL SCHEDULE

- A. Submit a submittal schedule showing all submittals proposed for project, including:
  1. Submittals for Review
  2. Closeout Submittals.
- B. Include for each submittal:
  1. Specification section number.
  2. Description of submittal.
  3. Type of submittal.
  4. Anticipated submittal date.
- C. Submit one (1) PDF copy, concurrently.

#### 1.5 SHOP DRAWINGS

- A. Present information in clear and thorough manner.
- B. Identify details by reference to sheet and detail numbers or areas shown on Drawings.
- C. Reproductions of details contained in Contract Documents are not acceptable.
- D. Submit one (1) PDF copy (concurrently). One hard copy and a PDF copy will be returned to Contractor for printing and distribution.

#### 1.6 PRODUCT DATA

- A. Mark each copy to identify applicable products, models, options, and other data.
- B. Supplement manufacturers' standard data to provide information unique to this Project.
- C. Submit one (1) pdf copie. Project Manager will return one copy to Contractor for printing and distribution.

#### 1.7 SAMPLES

- A. Submit samples to illustrate functional and aesthetic characteristics of Products, with integral parts and attachment of devices. Coordinate sample submittals for interfacing work.



- B. Where so indicated, submit samples of finishes from the full range of manufacturers' standard colors, textures, and patterns for Project Manager's selection.
- C. Include identification for each sample, with full Project information.
- D. Project Manager will notify Contractor of approval or rejection of samples, or of selection of color, texture or pattern if full range is submitted.

END OF SECTION

SECTION 01635  
SUBSTITUTION PROCEDURES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. Section includes administrative and procedural requirements for substitutions.
- B. **Named products and products that are scheduled to be direct replacements must obtain substitution approval prior to bid.** If a substitution is approved, all costs to provide a complete and turn key project that may be associated with the substitution shall be included in the Bid.
- C. Related Sections:
  - 1. Divisions 2 through 16 Sections for specific requirements and limitations for substitutions and pre-bid approvals.

1.3 DEFINITIONS

- A. Substitutions: Changes in products, materials, equipment, and methods of construction from those required by the Contract Documents and proposed by Contractor.
  - 1. Substitutions for Cause: Changes proposed by Contractor that are required due to changed Project conditions, such as unavailability of product, regulatory changes, or unavailability of required warranty terms.
  - 2. Substitutions for Convenience: Changes proposed by Contractor or Owner that are not required in order to meet other Project requirements but may offer advantage to Contractor or Owner.

1.4 SUBMITTALS

- A. Substitution Requests: Submit three copies of each request for consideration. Identify product or fabrication or installation method to be replaced.
  - 1. Documentation: Show compliance with requirements for substitutions and the following, as applicable:

- a. Statement indicating why specified product or fabrication or installation cannot be provided, if applicable.
  - b. Coordination information, including a list of changes or modifications needed to other parts of the Work and to construction performed by Owner and separate contractors that will be necessary to accommodate proposed substitution.
  - c. Product Data, including drawings and descriptions of products and fabrication and installation procedures.
  - d. 6"x12" Samples of each finish material in proposed pattern and color.
  - e. Certificates and qualification data.
  - f. Material test reports from a qualified testing agency indicating and interpreting test results for compliance with requirements indicated.
  - g. Cost information, including a proposal of change, if any, in the Contract Sum (not applicable for pre-bid Submittals).
  - h. Impact of substitution on construction schedule.
  - i. Contractor's certification that proposed substitution complies with requirements in the Contract Documents except as indicated in substitution request, is compatible with related materials, and is appropriate for applications indicated.
  - j. Contractor's waiver of rights to additional payment or time that may subsequently become necessary because of failure of proposed substitution to produce indicated results.
2. Project Manager's Action: If necessary, Project Manager will request additional information or documentation for evaluation within seven days of receipt of a request for substitution. Project Manager will notify Contractor of acceptance or rejection of proposed substitution within 7 days of receipt of request, or seven days of receipt of additional information or documentation, whichever is later.
- a. Forms of Acceptance: Change Order, Construction Change Directive, or Project Manager Supplemental Instructions for minor changes in the Work.
  - b. Use product specified if Project Manager does not issue a decision on use of a proposed substitution within time allocated.

## 1.5 QUALITY ASSURANCE

- A. Compatibility of Substitutions: Investigate and document compatibility of proposed substitution with related products and materials. Engage qualified testing agency to perform compatibility tests recommended by manufacturers.

## 1.6 PROCEDURES

- A. Coordination: Modify or adjust affected work as necessary to integrate work of the approved substitutions.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION

SECTION 01700  
EXECUTION REQUIREMENTS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. Section includes general administrative and procedural requirements governing execution of the Work including, but not limited to, the following:
  - 1. Environmental concerns.
  - 2. Installation of the Work.
  - 3. Cutting and patching.
  - 4. Progress cleaning.
  - 5. Starting and adjusting.
  - 6. Protection of installed construction.
  - 7. Correction of the Work.
- B. Related Sections:
  - 1. Division 1 Sections "Summary of the Work", "Project Record Documents", or "Closeout Procedures", if included in Project Manual, for submitting closeout documents and final cleaning.

1.3 DEFINITIONS

- A. Cutting: Removal of in-place construction necessary to permit installation or performance of other work.
- B. Patching: Fitting and repair work required to restore construction to original conditions after installation of other work.

1.4 INFORMATIONAL SUBMITTALS

- A. Cutting and Patching Plan: Submit plan describing procedures at least 10 days prior to the time cutting and patching will be performed. Include the following information:
  - 1. Extent: Describe reason for and extent of each occurrence of cutting and patching.
  - 2. Changes to In-Place Construction: Describe anticipated results. Include changes to structural elements and operating components as well as changes in building appearance and other significant visual elements.
  - 3. Products: List products to be used for patching and firms or entities that will perform patching work.

4. Dates: Indicate when cutting and patching will be performed.
5. Utilities and Mechanical and Electrical Systems: List services and systems that cutting and patching procedures will disturb or affect. List services and systems that will be relocated and those that will be temporarily out of service. Indicate how long services and systems will be disrupted. Prior approval of Utility outages is required. Notify Owner of intent at least 72 hours in advance for outages less than 1 hour in duration and two (2) months in advance for outages over 1 hour in duration.

## 1.5 QUALITY ASSURANCE

- A. Cutting and Patching: Comply with requirements for and limitations on cutting and patching of construction elements.

## PART 2 - PRODUCTS

### 2.1 MATERIALS

- A. General: Comply with requirements specified in other Sections.
- B. In-Place Materials: Use materials for patching identical to in-place materials. For exposed surfaces, use materials that visually match in-place adjacent surfaces to the fullest extent possible.
  1. If identical materials are unavailable or cannot be used, use materials that, when installed, will provide a match acceptable to the Architect for the visual and functional performance of in-place materials.

## PART 3 - EXECUTION

### 3.1 EXAMINATION

- A. Existing Conditions: The existence and location of underground and other utilities and construction indicated as existing are not guaranteed. Before beginning work, investigate and verify the existence and location of underground utilities, mechanical and electrical systems, and other construction affecting the Work.
  1. Before construction, verify the location and invert elevation at points of connection of sanitary sewer, storm sewer, and water-service piping; underground electrical services, and other utilities.
  2. Furnish location data for work related to Project that must be performed by public utilities serving Project site.
- B. Examination and Acceptance of Conditions: Before proceeding with each component of the Work, examine substrates, areas, and conditions, with Installer or Applicator present where indicated, for compliance with requirements for installation tolerances and other conditions affecting performance. Record observations.

1. Written Report: Where a written report listing conditions detrimental to performance of the Work is required by other Sections, include the following:
  - a. Description of the Work.
  - b. List of detrimental conditions, including substrates.
  - c. List of unacceptable installation tolerances.
  - d. Recommended corrections.
2. Verify compatibility with and suitability of substrates, including compatibility with existing finishes or primers.
3. Examine roughing-in for mechanical and electrical systems to verify actual locations of connections before equipment and fixture installation.
4. Examine walls, floors, and roofs for suitable conditions where products and systems are to be installed.
5. Proceed with installation only after unsatisfactory conditions have been corrected. Proceeding with the Work indicates acceptance of surfaces and conditions.

### 3.2 PREPARATION

- A. Field Measurements: Take field measurements as required to fit the Work properly. Recheck measurements before installing each product. Where portions of the Work are indicated to fit to other construction, verify dimensions of other construction by field measurements before fabrication. Coordinate fabrication schedule with construction progress to avoid delaying the Work.
- B. Space Requirements: Verify space requirements and dimensions of items shown diagrammatically on Drawings.
- C. Review of Contract Documents and Field Conditions: Immediately on discovery of the need for clarification of the Contract Documents caused by differing field conditions outside the control of the Contractor, submit a request for information to Architect according to requirements in Division 1 Section "Project Management and Coordination."
- D. Surface and Substrate Preparation: Comply with manufacturer's recommendations for preparation of substrates to receive subsequent work.

### 3.3 INSTALLATION

- A. General: Locate the Work and components of the Work accurately, in correct alignment and elevation, as indicated.
  1. Make vertical work plumb and make horizontal work level.
  2. Where space is limited, install components to maximize space available for maintenance and ease of removal for replacement.
  3. Conceal pipes, ducts, and wiring in finished areas, unless otherwise indicated.
  4. Maintain minimum headroom clearance of 96 inches, but in no case shall the new piping be lower than the existing piping.

- B. Comply with manufacturer's written instructions and recommendations for installing products in applications indicated.
- C. Install products at the time and under conditions that will ensure the best possible results. Maintain conditions required for product performance until Substantial Completion.
- D. Conduct construction operations so no part of the Work is subjected to damaging operations or loading in excess of that expected during normal conditions of occupancy.
- E. Tools and Equipment: Do not use tools or equipment that produce harmful noise levels.
- F. Templates: Obtain and distribute to the parties involved templates for work specified to be factory prepared and field installed. Check Shop Drawings of other work to confirm that adequate provisions are made for locating and installing products to comply with indicated requirements.
- G. Attachment: Provide blocking and attachment plates and anchors and fasteners of adequate size and number to securely anchor each component in place, accurately located and aligned with other portions of the Work. Where size and type of attachments are not indicated, verify size and type required for load conditions.
  - 1. Mounting Heights: Where mounting heights are not indicated, mount components at heights directed by Architect.
  - 2. Allow for building movement, including thermal expansion and contraction.
  - 3. Coordinate installation of anchorages. Furnish setting drawings, templates, and directions for installing anchorages, including sleeves, concrete inserts, anchor bolts, and items with integral anchors, that are to be embedded in concrete or masonry. Deliver such items to Project site in time for installation.
- H. Joints: Make joints of uniform width. Where joint locations in exposed work are not indicated, arrange joints for the best visual effect. Fit exposed connections together to form hairline joints.
- I. Hazardous Materials: Use products, cleaners, and installation materials that are not considered hazardous, and meet environmental requirements.

#### 3.4 CUTTING AND PATCHING

- A. Cutting and Patching, General: Employ skilled workers to perform cutting and patching. Proceed with cutting and patching at the earliest feasible time, and complete without delay.
  - 1. Cut in-place construction to provide for installation of other components or performance of other construction, and subsequently patch as required to restore surfaces to their original condition.
- B. Temporary Support: Provide temporary support of work to be cut.



- C. Protection: Protect in-place construction during cutting and patching to prevent damage. Provide protection from adverse weather conditions for portions of Project that might be exposed during cutting and patching operations.
- D. Adjacent Occupied Areas: Where interference with use of adjoining areas or interruption of free passage to adjoining areas is unavoidable, coordinate cutting and patching in accordance with requirements of Division 1 Section "Summary."
- E. Existing Utility Services and Mechanical/Electrical Systems: Where existing services/systems are required to be removed, relocated, or abandoned, bypass such services/systems before cutting to prevent interruption to occupied areas.
- F. Cutting: Cut in-place construction by sawing, drilling, breaking, chipping, grinding, and similar operations, including excavation, using methods least likely to damage elements retained or adjoining construction. If possible, review proposed procedures with original Installer; comply with original Installer's written recommendations.
  - 1. In general, use hand or small power tools designed for sawing and grinding, not hammering and chopping. Cut holes and slots neatly to minimum size required, and with minimum disturbance of adjacent surfaces. Temporarily cover openings when not in use.
  - 2. Finished Surfaces: Cut or drill from the exposed or finished side into concealed surfaces.
  - 3. Concrete and Masonry: Cut using a cutting machine, such as an abrasive saw or a diamond-core drill.
  - 4. Mechanical and Electrical Services: Cut off pipe or conduit in walls or partitions to be removed. Cap, valve, or plug and seal remaining portion of pipe or conduit to prevent entrance of moisture or other foreign matter after cutting.
  - 5. Proceed with patching after construction operations requiring cutting are complete.
- G. Patching: Patch construction by filling, repairing, refinishing, closing up, and similar operations following performance of other work. Patch with durable seams that are as invisible as practicable. Provide materials and comply with installation requirements specified in other Sections, where applicable.
  - 1. Inspection: Where feasible, test and inspect patched areas after completion to demonstrate physical integrity of installation.
  - 2. Exposed Finishes: Restore exposed finishes of patched areas and extend finish restoration into retained adjoining construction in a manner that will minimize evidence of patching and refinishing.
    - a. Clean piping, conduit, and similar features before applying paint or other finishing materials.
    - b. Restore damaged pipe covering to its original condition.
  - 3. Floors and Walls: Where walls or partitions that are removed extend one finished area into another, patch and repair floor and wall surfaces in the new space. Provide an even surface of uniform finish, color, texture, and appearance. Remove in-place floor and wall coverings and replace with new materials, if necessary, to achieve uniform color and appearance.

- a. Where patching occurs in a painted surface, prepare substrate and apply primer and intermediate paint coats appropriate for substrate over the patch, and apply final paint coat over entire unbroken surface containing the patch. Provide additional coats until patch blends with adjacent surfaces.
  - 4. Ceilings: Patch, repair, or rehang in-place ceilings as necessary to provide an even-plane surface of uniform appearance.
  - 5. Exterior Building Enclosure: Patch components in a manner that restores enclosure to a weathertight condition.
- H. Cleaning: Clean areas and spaces where cutting and patching are performed. Remove paint, mortar, oils, putty, and similar materials from adjacent finished surfaces.

### 3.5 PROGRESS CLEANING

- A. General: Clean Project site and work areas daily, including common areas. Enforce requirements strictly. Dispose of materials lawfully.
- 1. Comply with requirements in NFPA 241 for removal of combustible waste materials and debris.
  - 2. Do not hold waste materials more than seven days during normal weather or three days if the temperature is expected to rise above 80 deg F (27 deg C).
  - 3. Containerize hazardous and unsanitary waste materials separately from other waste. Mark containers appropriately and dispose of legally, according to regulations.
    - a. Utilize containers intended for holding waste materials of type to be stored.
  - 4. Coordinate progress cleaning for joint-use areas where more than one installer has worked.
- B. Site: Maintain Project site free of waste materials and debris.
- C. Work Areas: Clean areas where work is in progress to the level of cleanliness necessary for proper execution of the Work.
- 1. Remove liquid spills promptly.
  - 2. Where dust would impair proper execution of the Work, broom-clean or vacuum the entire work area, as appropriate.
- D. Installed Work: Keep installed work clean. Clean installed surfaces according to written instructions of manufacturer or fabricator of product installed, using only cleaning materials specifically recommended. If specific cleaning materials are not recommended, use cleaning materials that are not hazardous to health or property and that will not damage exposed surfaces.
- E. Exposed Surfaces in Finished Areas: Clean exposed surfaces and protect as necessary to ensure freedom from damage and deterioration at time of Substantial Completion.

- F. Waste Disposal: Do not bury or burn waste materials on-site. Do not wash waste materials down sewers or into waterways.
- G. During handling and installation, clean and protect construction in progress and adjoining materials already in place. Apply protective covering where required to ensure protection from damage or deterioration at Substantial Completion.
- H. Clean completed construction as frequently as necessary through the remainder of the construction period.

### 3.6 STARTING AND ADJUSTING

- A. Coordinate startup and adjusting of equipment and operating components with requirements in other Division 2 -16 Sections."
- B. Start equipment and operating components to confirm proper operation. Remove malfunctioning units, replace with new units, and retest.
- C. Adjust equipment for proper operation. Adjust operating components for proper operation without binding.
- D. Test each piece of equipment to verify proper operation. Test and adjust controls and safeties. Replace damaged and malfunctioning controls and equipment.
- E. Manufacturer's Field Service: Comply with qualification requirements in other Division 2-16 Sections.

### 3.7 PROTECTION OF INSTALLED CONSTRUCTION

- A. Provide final protection and maintain conditions that ensure installed Work is without damage or deterioration at time of Substantial Completion.
- B. Comply with manufacturer's written instructions for temperature and relative humidity.

### 3.8 CORRECTION OF THE WORK

- A. Repair or remove and replace defective construction. Restore damaged substrates and finishes.
  - 1. Repairing includes replacing defective parts, refinishing damaged surfaces, touching up with matching materials, and properly adjusting operating equipment.
- B. Restore permanent facilities used during construction to their specified condition.
- C. Remove and replace damaged surfaces that are exposed to view if surfaces cannot be repaired without visible evidence of repair.
- D. Repair components that do not operate properly. Remove and replace operating components that cannot be repaired.

- E. Re-grade and sod any disturbed grass areas.

### 3.9 ENVIRONMENTAL CONCERNS

1. Provide protection and conduct construction in ways that comply with environmental regulations and that minimize possible air, waterway, and subsoil contamination or pollution or other undesirable effects.

### 3.10 STORMWATER CONTROL AND DISCHARGE

1. Comply with City of Mobile and Alabama Department of Environmental Management requirements. Pay particular attention to Water Regulations and Allowable Discharges.
2. See City of Mobile Code, Chapter 17, Storm Water Management and Flood Control.
3. Obtain any necessary permits that may be required due to discharges.

END OF SECTION 01700

SECTION 017823  
OPERATION AND MAINTENANCE DATA

PART 1 - GENERAL

1.1 SUMMARY

- A. This Section includes administrative and procedural requirements for preparing operation and maintenance manuals, including the following:
  - 1. Operation manuals for systems, subsystems, and equipment.
  - 2. Maintenance manuals for the care and maintenance of products, materials, and finishes, systems and equipment.
- B. See Divisions 01 through 16 Sections for specific operation and maintenance manual requirements for the Work in those Sections.

1.2 SUBMITTALS

- A. Manual: Submit two copies of each manual in final form at least 15 days before final inspection. Architect will return copy with comments within 10 days after final inspection.
  - 1. Correct or modify each manual to comply with Architect's comments. Submit **2** copies of each corrected manual within 10 days of receipt of Architect's comments.
  - 2. Provide PDF copies on 2 discs. Submit with the corrected manual.

PART 2 - PRODUCTS

2.1 MANUALS, GENERAL

- A. Organization: Unless otherwise indicated, organize each manual into a separate section for each system and subsystem, and a separate section for each piece of equipment not part of a system. Each manual shall contain a title page, table of contents, and manual contents.
- B. Title Page: Enclose title page in transparent plastic sleeve. Include the following information:
  - 1. Subject matter included in manual.
  - 2. Name and address of Project.
  - 3. Name and address of Owner.
  - 4. Date of submittal.
  - 5. Name, address, and telephone number of Contractor.
  - 6. Name and address of Architect and Engineer.
  - 7. Cross-reference to related systems in other operation and maintenance manuals.

- C. Table of Contents: List each product included in manual, identified by product name, indexed to the content of the volume, and cross-referenced to Specification Section number in Project Manual.
- D. Manual Contents: Organize into sets of manageable size. Arrange contents alphabetically by system, subsystem, and equipment. If possible, assemble instructions for subsystems, equipment, and components of one system into a single binder.
  - 1. Binders: Heavy-duty, 3-ring, vinyl-covered, loose-leaf binders, in thickness necessary to accommodate contents, sized to hold 8-1/2-by-11-inch (215-by-280-mm) paper; with clear plastic sleeve on spine to hold label describing contents and with pockets inside covers to hold folded oversize sheets.
    - a. Identify each binder on front and spine, with printed title "OPERATION AND MAINTENANCE MANUAL," Project title or name, and subject matter of contents. Indicate volume number for multiple-volume sets.
  - 2. Dividers: Heavy-paper dividers with plastic-covered tabs for each section. Mark each tab to indicate contents. Include typed list of products and major components of equipment included in the section on each divider, cross-referenced to Specification Section number and title of Project Manual.
  - 3. Protective Plastic Sleeves: Transparent plastic sleeves designed to enclose diagnostic software diskettes for computerized electronic equipment.
  - 4. Drawings: Attach reinforced, punched binder tabs on drawings and bind with text.
    - a. If oversize drawings are necessary, fold drawings to same size as text pages and use as foldouts.
    - b. If drawings are too large to be used as foldouts, fold and place drawings in labeled envelopes and bind envelopes in rear of manual. At appropriate locations in manual, insert typewritten pages indicating drawing titles, descriptions of contents, and drawing locations.

## 2.2 OPERATION MANUALS

- A. Content: In addition to requirements in this Section, include operation data required in individual Specification Sections and equipment descriptions, operating standards, operating procedures, operating logs, wiring and control diagrams, and license requirements.
- B. Descriptions: Include the following:
  - 1. Product name and model number.
  - 2. Manufacturer's name.
  - 3. Equipment identification with serial number of each component.
  - 4. Equipment function.
  - 5. Operating characteristics.
  - 6. Limiting conditions.
  - 7. Performance curves.

8. Engineering data and tests.
  9. Complete nomenclature and number of replacement parts.
- C. Operating Procedures: Include start-up, break-in, and control procedures; stopping and normal shutdown instructions; routine, normal, seasonal, and weekend operating instructions; and required sequences for electric or electronic systems.
  - D. Systems and Equipment Controls: Describe the sequence of operation, and diagram controls as installed.
  - E. Piped Systems: Diagram piping as installed, and identify color-coding where required for identification.

## 2.3 PRODUCT MAINTENANCE MANUAL

- A. Content: Organize manual into a separate section for each product, material, and finish. Include source information, product information, maintenance procedures, repair materials and sources, and warranties and bonds, as described below.
- B. Source Information: List each product included in manual, identified by product name and arranged to match manual's table of contents. For each product, list name, address, and telephone number of Installer or supplier and maintenance service agent, and cross-reference Specification Section number and title in Project Manual.
- C. Product Information: Include the following, as applicable:
  1. Product name and model number.
  2. Manufacturer's name.
  3. Color, pattern, and texture.
  4. Material and chemical composition.
  5. Reordering information for specially manufactured products.
- D. Maintenance Procedures: Include manufacturer's written recommendations and inspection procedures, types of cleaning agents, methods of cleaning, schedule for cleaning and maintenance, and repair instructions.
- E. Repair Materials and Sources: Include lists of materials and local sources of materials and related services.
- F. Warranties and Bonds: Include copies of warranties and bonds and lists of circumstances and conditions that would affect validity of warranties or bonds.

## 2.4 SYSTEMS AND EQUIPMENT MAINTENANCE MANUAL

- A. Content: For each system, subsystem, and piece of equipment not part of a system, include source information, manufacturers' maintenance documentation, maintenance procedures, maintenance and service schedules, spare parts list and source information, maintenance service contracts, and warranty and bond information, as described below.

- B. Source Information: List each system, subsystem, and piece of equipment included in manual, identified by product name and arranged to match manual's table of contents. For each product, list name, address, and telephone number of Installer or supplier and maintenance service agent, and cross-reference Specification Section number and title in Project Manual.
- C. Manufacturers' Maintenance Documentation: Manufacturers' maintenance documentation including maintenance instructions, drawings and diagrams for maintenance, nomenclature of parts and components, and recommended spare parts for each component part or piece of equipment:
- D. Maintenance Procedures: Include test and inspection instructions, troubleshooting guide, disassembly instructions, and adjusting instructions, and demonstration and training videotape if available, that detail essential maintenance procedures.
- E. Submit demonstration and training video for all lighting control systems.
- F. Maintenance and Service Schedules: Include service and lubrication requirements, list of required lubricants for equipment, and separate schedules for preventive and routine maintenance and service with standard time allotment.
- G. Spare Parts List and Source Information: Include lists of replacement and repair parts, with parts identified and cross-referenced to manufacturers' maintenance documentation and local sources of maintenance materials and related services.
- H. Maintenance Service Contracts: Include copies of maintenance agreements with name and telephone number of service agent.
- I. Warranties and Bonds: Include copies of warranties and bonds and lists of circumstances and conditions that would affect validity of warranties or bonds.

## PART 3 - EXECUTION

### 3.1 MANUAL PREPARATION

- A. Product Maintenance Manual: Assemble a complete set of maintenance data indicating care and maintenance of each product, material, and finish incorporated into the Work.
- B. Operation and Maintenance Manuals: Assemble a complete set of operation and maintenance data indicating operation and maintenance of each system, subsystem, and piece of equipment not part of a system.
- C. Manufacturers' Data: Where manuals contain manufacturers' standard printed data, include only sheets pertinent to product or component installed. Mark each sheet to identify each product or component incorporated into the Work. If data include more than one item in a tabular format, identify each item using appropriate references from the Contract Documents. Identify data applicable to the Work and delete references to information not applicable.



- D. Drawings: Prepare drawings supplementing manufacturers' printed data to illustrate the relationship of component parts of equipment and systems and to illustrate control sequence and flow diagrams. Coordinate these drawings with information contained in Record Drawings to ensure correct illustration of completed installation.
  - 1. Do not use original Project Record Documents as part of operation and maintenance manuals.
  
- E. Comply with Division 01 Section "Closeout Procedures" for schedule for submitting operation and maintenance documentation.

END OF SECTION 017823

SECTION 017839  
PROJECT RECORD DOCUMENTS

PART 1 - GENERAL

1.1 SUMMARY

- A. This Section includes administrative and procedural requirements for Project Record Documents, including the following:
  - 1. Record Drawings.
  - 2. Record Specifications.
  - 3. Record Product Data.
- B. See Division 01 Section "Operation and Maintenance Data" for operation and maintenance manual requirements.
- C. See Divisions 01 through 16 Sections for specific requirements for Project Record Documents of the Work in those Sections.

1.2 SUBMITTALS

- A. Record Drawings: Comply with the following:
  - 1. Number of Copies: Submit copies of Record Drawings as follows:
    - a. Final Submittal: Submit two sets of marked-up Record Prints, showing all dimensional locations, materials changes, any changes via addendum or change order. Pay particular attention to noting underground utilities.
- B. Record Specifications: Submit two copies of Project's Specifications, including addenda and contract modifications.
- C. Record Product Data: Submit two copies of each Product Data submittal.
- D. Submit PDF's of Record Drawings, Record Specifications, Record Change Orders, Requests for Proposal, Documentation of use of Allowances, Product and Contractor's Warrantees, Product Test Reports, Final Surveys, Record Product Data, etc on 2 discs.

PART 2 - PRODUCTS

2.1 RECORD DRAWINGS

- A. Record Prints: Maintain one set of blue- or black-line white prints of the Contract Drawings and Shop Drawings.

1. Preparation: Mark Record Prints to show the actual installation where installation varies from that shown originally. Require individual or entity who obtained record data, whether individual or entity is Installer, subcontractor, or similar entity, to prepare the marked-up Record Prints.
    - a. Give particular attention to information on concealed elements that would be difficult to identify or measure and record later.
    - b. Record data as soon as possible after obtaining it. Record and check the markup before enclosing concealed installations.
  2. Mark the Contract Drawings or Shop Drawings, whichever is most capable of showing actual physical conditions, completely and accurately. If Shop Drawings are marked, show cross-reference on the Contract Drawings.
  3. Mark record sets with erasable, red-colored pencil. Use other colors to distinguish between changes for different categories of the Work at same location.
  4. Note Construction Change Directive numbers, alternate numbers, Change Order numbers, and similar identification, where applicable.
- B. Format: Identify and date each Record Drawing; include the designation "PROJECT RECORD DRAWING" in a prominent location.
1. Record Prints: Organize Record Prints and newly prepared Record Drawings into manageable sets. Bind each set with durable paper cover sheets. Include identification on cover sheets.
  2. Record Transparencies: Organize into unbound sets matching Record Prints. Place transparencies in durable tube-type drawing containers with end caps. Mark end cap of each container with identification. If container does not include a complete set, identify Drawings included.
  3. Record CAD Drawings: Organize CAD information into separate electronic files that correspond to each sheet of the Contract Drawings. Name each file with the sheet identification. Include identification in each CAD file.
  4. Identification: As follows:
    - a. Project name.
    - b. Date.
    - c. Designation "PROJECT RECORD DRAWINGS."
    - d. Name of Architect and Engineer.
    - e. Name of Contractor.

## 2.2 RECORD SPECIFICATIONS

- A. Preparation: Mark Specifications to indicate the actual product installation where installation varies from that indicated in Specifications, addenda, and contract modifications.
1. Give particular attention to information on concealed products and installations that cannot be readily identified and recorded later.
  2. Mark copy with the proprietary name and model number of products, materials, and equipment furnished, including substitutions and product options selected.

3. Record the name of manufacturer, supplier, Installer, and other information necessary to provide a record of selections made.
4. Note related Change Orders, Record Product Data, and Record Drawings where applicable.

### 2.3 RECORD PRODUCT DATA

- A. Preparation: Mark Product Data to indicate the actual product installation where installation varies substantially from that indicated in Product Data submittal.
  1. Give particular attention to information on concealed products and installations that cannot be readily identified and recorded later.
  2. Include significant changes in the product delivered to Project site and changes in manufacturer's written instructions for installation.
  3. Note related Change Orders, Record Specifications, and Record Drawings where applicable.

### 2.4 MISCELLANEOUS RECORD SUBMITTALS

- A. Assemble miscellaneous records required by other Specification Sections for miscellaneous record keeping and submittal in connection with actual performance of the Work. Bind or file miscellaneous records and identify each, ready for continued use and reference.
- B. Completed Test Reports.

## PART 3 - EXECUTION

### 3.1 RECORDING AND MAINTENANCE

- A. Recording: Maintain one copy of each submittal during the construction period for Project Record Document purposes. Post changes and modifications to Project Record Documents as they occur; do not wait until the end of Project.
- B. Maintenance of Record Documents and Samples: Store Record Documents and Samples in the field office apart from the Contract Documents used for construction. Do not use Project Record Documents for construction purposes. Maintain Record Documents in good order and in a clean, dry, legible condition, protected from deterioration and loss. Provide access to Project Record Documents for Architect's reference during normal working hours.

END OF SECTION 017839

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**SECTION 230000 – HVAC GENERAL**

**PART 1 - GENERAL**

1.1 The work covered by this division consists of providing all labor, equipment and materials and performing all operations necessary for the installation of the mechanical work as herein called for and shown on the drawings. The work shall include but shall not be limited to the following:

Provide all HVAC (Heating, Ventilating, and Air Conditioning) and associated controls systems for the chiller replacement project. Fully coordinate all mechanical requirements with work by other Divisions under this construction contract. All systems shall be complete and fully functional.

1.2 Related Documents:

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification sections, apply to work of this section.
- B. Provisions of this section apply to work of all Division 23 sections.
- C. Review all other contract documents to be aware of conditions affecting work herein.

1.3 Definitions:

- A. Provide: Furnish and install, complete and ready for intended use.
- B. Furnish: Supply and deliver to the project site, ready for subsequent requirements.
- C. Install: Operations at project site, including unloading, unpacking, assembly, erection, placing, anchoring, applying, working to dimension, finishing, curing, protecting, cleaning, and similar requirements.

1.4 Permits and Fees: Contractor shall obtain all necessary permits, meters, and inspections required for Division 23 work and pay all fees and charges incidental thereto.

1.5 Verification of Owner's Survey Data: Prior to commencing any work, the Contractor shall verify the accuracy of all survey data as indicated in these plans and specifications and/or as provided by the Owner. Should the Contractor discover any inaccuracies, errors, or omissions in the data, such items shall immediately be notified to the Architect/Engineer so that proper adjustments can be anticipated and ordered. Commencement by the Contractor of work shall be held as an acceptance of the data after which time the Contractor has no claim against the Owner resulting from alleged errors, omissions or inaccuracies of the said data.

1.6 Delivery and Storage of Materials: Materials delivered to site shall be inspected for damage, unloaded, and stored with a minimum of handling. All material shall be stored to provide protection from the weather and accidental damage.

1.7 Extent of work is indicated by the drawings, schedules, and the requirements of the specifications. Singular references shall not be construed as requiring only one device if multiple devices are shown on the drawings or are required for proper system operation.

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1.8 Field Measurements and Coordination:

- A. The intent of the drawings and specifications is to obtain a complete and satisfactory installation. Separate divisional drawings and specifications shall not relieve the Contractor or subcontractors from full compliance of work of his trade indicated on any of the Drawings or in any Section of the Specifications. Report conflicts prior to start of work.
- B. Verify all field dimensions and locations of equipment to ensure close, neat fit with other trades' work. Make use of all contract documents and approved shop drawings to verify exact dimension and locations.
- C. Coordinate work in this division with all other trades in proper sequence to ensure that the total work is completed within contract time schedule and with minimum cutting and patching.
- D. Locate all equipment, piping, and apparatus symmetrical with architectural elements. When locations are shown only on mechanical drawings, be guided by conditions existing at job and correlate this work with that of others. Provide all required work clearances as defined by code and manufacturer's recommendations.
- E. Install work as required to fit structure, avoid obstructions, and retain clearance, headroom, openings and passageways.
- F. Carefully examine any existing conditions, piping, and premises. Compare drawings with existing conditions. Report any observed discrepancies. It shall be the Contractor's responsibility to properly coordinate the work and to identify problems in a timely manner. Written instructions will be issued by the Engineer to resolve discrepancies.
- G. Because of the small scale of the drawings, it is not possible to indicate all offsets and fittings or to locate every accessory. Drawings are essentially diagrammatic. Locate piping, equipment and accessories with sufficient space for installing and servicing. Contractor is responsible for accuracy of his measurements and for coordination with all trades. Contractor shall not order materials or perform work without verification. No extra compensation will be allowed because field measurements vary from the dimensions on the drawings. If field measurements show that equipment or material cannot be fitted, the Engineer shall be consulted. Remove and relocate, without additional compensation, any item that is installed and is later found to encroach on space assigned to another use.

1.9 Guarantee and Service:

- A. The Contractor shall guarantee labor, materials and equipment for a period of ten (10) year from Substantial Completion, or from Owner's occupancy, whichever is earlier. Contractor shall make good any defects and shall include all necessary adjustments to and replacement of defective items without expense to the Owner. Manufacturer warranties do not relieve the Contractor of this responsibility.
- B. Owner reserves the right to make emergency repairs as required to keep equipment in operation without voiding Contractor's Guarantee Bond or relieving Contractor of his responsibilities during guarantee period.
- C. Contractor shall provide service of all new equipment during the guarantee period without additional expense to the Owner.

1.10 Approval Submittals:

- A. Shop drawings, product literature, and other approved submittals will only be reviewed if they are

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submitted in full accordance with the General and Supplementary Conditions and Division 1 Specification sections and the following:

1. Submittals shall not include items from more than one specification section in the same submittal package.
  2. Submittals shall be properly identified by a cover sheet showing the project name, Architect and Engineer names, submittal control numbers, specification section, a list of products or item names with model numbers in the order they appear in the package, and spaces for approved stamps. A sample cover sheet is included at the end of this section.
  3. Submittals shall have been reviewed and approved by the General Contractor (or Prime Contractor). Evidence of this review and approval shall be an "Approved" stamp with a signature and date on the cover sheet.
  4. The electrical design shown on the drawings supports the mechanical equipment basis of design specifications at the time of design. If mechanical equipment is submitted with different electrical requirements, it is the responsibility of the mechanical contractor to resolve all required electrical design changes (wire and conduit size, type of disconnect or overload protection, point(s) of connection, etc.) and clearly show the new electrical design on the mechanical submittal with a written statement that this change will be provided at no additional cost. Mechanical submittals made with no written reference to the electrical design will be presumed to work with the electrical design. Any corrections required will be at no additional cost.
- B. Before ordering any materials or equipment, and within 30 days after the award of the contract, the Contractor shall submit to the Architect/Engineer one complete schedule showing the make, type, manufacturer's name and trade designation of all equipment.
1. This schedule shall be accompanied by the required number of copies of the manufacturer's printed specifications and shop drawings for each piece of equipment or specialty and shall give dimensions, diagrams, descriptive literature, capacity or rating, kind of material, finish, guarantee, etc., and such other detailed information as the Architect/Engineer may require.
  2. When approved, such schedule shall be an addition to these specifications, and shall be of equal force in that no deviation will be permitted except with the approval of the Architect/Engineer.
- C. If the shop drawings show variation from the requirements of the contract documents, the Contractor shall make specific mention of such variation in his letter of transmittal. If acceptable, Contractor will not be relieved of the responsibility for executing the work in accordance with the contract.
- D. Review of shop drawings, descriptive literature, catalog data, or schedules shall not relieve the Contractor from responsibility for deviations from Contract Drawings or Specifications, unless he has in writing called to the attention of the Architect/Engineer such deviation at the time of submission, nor shall it relieve him from responsibility for errors of any sort in shop drawings, descriptive literature, catalog data, or schedules. Any feature or function specified but not mentioned in the submittal shall be assumed to be included per the specification.
- E. Submit shop drawings and any other drawings called for in other sections. Shop drawings shall consist of plans, sections, elevations and details to scale (not smaller than 1/4" per foot), with dimensions clearly showing the installation. Direct copies of small-scale project drawings issued to the Contractor are not acceptable. Drawings shall take into account equipment furnished under other sections and shall show space allotted for it. Include construction details and materials.
- F. Submit product data after award of the contract and before any equipment or materials are purchased. Product data are defined as manufacturer's printed literature specifically marked to indicate size and

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model and accompanied by rating sheets listing values showing that equipment meets scheduled or specified values. Properly coded stamp from the Engineer on returned submittal is required before ordering equipment.

- G. Coordinate with other divisions supplying equipment prior to submitting shop drawings.
  - H. Shop drawings shall be submitted in one package unless approved otherwise by the Engineer. Provide an index of sections listing manufacturers and “as-specified” or not. Each specification section shall be tabbed with equipment inserted.
- 1.11 Test Reports and Verification Submittals: Submit test reports, certifications and verification letters as called for in other sections. Contractor shall coordinate the required testing and documentation of system performance such that sufficient time exists to prepare the reports, review the reports, and take corrective action within the scheduled contract time.
- 1.12 O&M Data Submittals: Submit Operations and Maintenance data as called for in other sections when a copy of approved submittals is included in the O&M Manual, only the final “Furnish as Submitted” or “Furnish as Corrected” copy shall be used. Contractor shall organize these later in the O&M Manuals tabbed by specification number. Prepare O&M Manuals as required by Division 1 and as described herein. Submit manuals at the Substantial Completion inspection.

**PART 2 - PRODUCTS**

- 2.1 All materials shall be new or Owner-supplied reused as shown on the Drawings, the best of their respective kinds, suitable for the conditions and duties imposed on them. The description, characteristics, and requirements of materials to be used shall be in accordance with qualifying conditions established in the following sections.
- 2.2 Equipment and Materials:
- A. Equipment and materials furnished under this division shall be the product of a manufacturer regularly engaged in the manufacture of such items for a period of three years. Where practical, all of the components shall be products of a single manufacturer in order to provide proper coordination and responsibility. Where required, Contractor shall furnish proof of installation of similar equipment or materials.
  - B. Each item of equipment shall bear a nameplate showing the manufacturer's name, trade name, model number, serial number, ratings and other information necessary to fully identify it. This plate shall be permanently mounted in a prominent location and shall not be concealed, insulated or painted.
  - C. The label of the approving agency, such as UL, ASME, AHRI, or AMCA, by which a standard has been established for each particular item, shall be in full view.
  - D. The equipment shall be essentially the standard product of a manufacturer regularly engaged in the production of such equipment and shall be a product of the manufacturer’s latest design.
  - E. A service organization with personnel and spare parts shall be available within two hours for each type of equipment furnished.
  - F. Install in accordance with manufacturer's recommendations. Place in service by a factory trained representative where required.
  - G. Materials and equipment are specified herein by a single or by multiple manufacturers to indicate



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quality, material and type of construction desired. Manufacturer's products shown on the drawings have been used as basis for design; it shall be the Contractor's responsibility to ascertain that alternate manufacturer's products meet detailed specifications and that size and arrangement of the equipment are suitable for installation.

- H. Model Numbers: Catalog numbers and model numbers indicated in the drawings and specifications are used as a guide in the selection of the equipment and are only listed for the Contractor's convenience. The Contractor shall determine the actual model numbers for ordering equipment and materials in accordance with the written description of each item and with the intent of the drawings and specifications.

2.3 Requests for Substitution:

- A. Where a particular system, product or material is specified by name, consider it as standard basis for bidding, and base proposal on the particular system, product or material specified. Other systems, products, equipment or materials may be accepted only if in the opinion of the Engineer, that they are equivalent in quality and workmanship and will perform satisfactorily its intended purpose. The Engineer shall approve all such substitutions in materials or equipment in writing. This shall occur prior to bidding.
- B. In making requests for substitutions, the Contractor shall list the particular system, product, equipment or material he wishes to substitute and, at bid time, the Contractor shall state the amount he will add or deduct from his base bid if the substitution is approved by the Engineer. If the Contractor allows no deduction or addition to the base bid for such substitution, it shall be stated on the request.
- C. Requests by the Contractor for substitution will be considered only when reasonable, timely, fully documented, and qualifying under one or more of the following circumstances.
1. Required product cannot be supplied in time for compliance with Contract time requirements.
  2. Required product is not acceptable to governing authority, or determined to be non-compatible, or cannot be properly coordinated, warranted or insured, or has other recognized disabilities as certified by the Contractor.
  3. Substantial cost advantage is offered to the Owner after deducting offsetting disadvantages including delays, additional compensation for redesign, investigation, evaluation and other necessary services and similar considerations.
- D. All requests for substitution shall contain a "Comparison Schedule" and clearly and specifically indicate any and all differences and omissions between the product specified as the basis of design and the product proposed for substitution. Differences shall include, but not limited to, data as follows for both the specified and substituted products:
1. Principle of operation.
  2. Materials of construction or finishes.
  3. Thickness or gauge of materials.
  4. Weight of item.
  5. Deleted features or items.
  6. Added features or items.
  7. Changes in other work caused by the substitution.
  8. Performance and rating data.
- E. If the approved substitution contains differences or omissions not specifically called to the attention of the Engineer, the Owner reserves the right to require equal or similar features to be added to the substituted products at the Contractor's expense.

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- 2.4 Prior Approval: Prior Approval shall be required for any manufacturer other than those listed for all specified items in the Drawings and Specifications. Submit all requests for approval of the alternate manufacturer's products two weeks prior to bid opening. Approval will be in the form of an Addendum to the Specifications and Drawings. Clearly indicate all differences between the specified and proposed product following the guidelines for substitution herein. This requirement may be waived if, in the opinion of the Engineer, it is in the best interest of the Owner. Submittals received after award of the bid for equipment that has not be Prior Approved shall be subject to immediate rejection.

**PART 3 - EXECUTION**

- 3.1 Workmanship: All materials and equipment shall be installed and completed in a first-class workmanlike manner and in accordance with the best modern methods and practice. Any materials installed which do not present an orderly and reasonably neat and/or workmanlike appearance, or do not allow adequate space for maintenance, shall be removed and replaced when so directed by the Architect/Engineer.
- 3.2 Coordination:
- A. The Contractor shall be responsible for full coordination of the mechanical systems with shop drawings of the building construction so the proper openings and sleeves or supports are provided for piping, ductwork, or other equipment passing through slabs or walls.
  - B. Any additional steel supports required for the installation of any mechanical equipment, piping, or ductwork shall be furnished and installed under the section of the specifications requiring the additional supports.
  - C. It shall be the Contractor's responsibility to verify all equipment such as valves and such other apparatus or equipment that may require maintenance and operation are made easily accessible, regardless of the diagrammatic location shown on the drawings.
  - D. All connections to devices and equipment shown on the drawings shall be considered diagrammatic unless otherwise indicated by detail. The actual connections shall be made to fully suit the requirements of each case and adequately provide for expansion and servicing.
  - E. The Contractor shall protect equipment, material, and fixtures at all times during storage and construction. The Contractor shall replace all equipment, material, and fixtures which are damaged as a result of inadequate protection.
  - F. Prior to starting and during progress of work, examine work and materials installed by others as they apply to work in this division. Report conditions which will prevent satisfactory installation.
  - G. Start of work will be construed as acceptance of suitability of work of others.
- 3.3 Interruption of Service: Before any equipment is shut down for disconnection or tie-ins, arrangements shall be made with the Architect/Engineer and this work shall be done at the time best suited to the Owner. This will typically be on weekends and/or holidays and/or after normal working hours. Services shall be restored the same day unless prior arrangements are made. All overtime or premium costs associated with this work shall be included in the base bid.
- 3.4 Phasing: Provide all required temporary valves, piping, equipment and devices as required. Maintain temporary services to areas as required. Remove all temporary material and equipment on completion

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of work unless Engineer concurs that such material and equipment would be beneficial to the Owner on a permanent basis.

- 3.5 Cutting and Patching: Contractor shall be responsible for cutting and patching of all holes, chases, sleeves, and other openings required for installation of equipment furnished and installed under these Specifications. Utilize experienced trades for cutting and patching. Obtain permission from Architect/Engineer before cutting any structural items.
- 3.6 Equipment Setting: Bolt equipment directly to concrete pads or vibration isolators as required, using hot-dipped galvanized anchor bolts, nuts and washers. Level equipment.
- 3.7 Painting: Touch-up factory finishes on equipment located inside and outside shall be done under the Division 23. Obtain matched color coatings from the manufacturer and apply as directed. If corrosion is found during inspection on the surface of any equipment, clean, prime, and paint as required. If corrosion is found to be extensive by the Engineer, the equipment shall be removed and replaced with factory new at the expense of the Contractor.
- 3.8 Cleanup: Thoroughly clean all exposed parts of apparatus and equipment of cement, plaster, and other materials and remove all oil and grease spots. Repaint or touch up as required to look like new. During progress of work, Contractor is to carefully clean up and leave premises and all portions of building free from debris and in a clean and safe condition.
- 3.9 Startup and Operational Test: Start each item of equipment in strict accordance with the manufacturer's instructions; or where noted under equipment specification, startup shall be done by a qualified representative of the manufacturer. Alignment, lubrication, safety, and operating control shall be included in startup check.
- 3.10 Record Drawings:
- A. During the progress of the work, the Contractor shall record on his field set of drawings the exact location, as installed, of all piping, equipment, and other systems which are not installed exactly as shown on the contract drawings.
  - B. Upon completion of the work, record drawings shall be prepared as described in the General Conditions, Supplementary Conditions, and Division 1 sections.
- 3.11 Acceptance:
- A. Request inspections as required under the Supplementary or General Conditions. Conceal no work until inspected.
  - B. Punch List: Submit written confirmation that all punch lists have been checked and the required work completed. The Contractor shall pay, at the Engineer's current billing rate, for additional field time required by the Engineer to report or check on previous punch list deficiencies.
  - C. Instructions: At completion of the work, provide a competent and experienced person who is thoroughly familiar with project, for a period deemed necessary by the Owner to instruct permanent operating personnel in the operation of equipment and control systems.
  - D. Operation and Maintenance Manuals: Furnish complete manuals electronically and organized by

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system or section. Manuals shall contain:

1. Detailed operating instructions and instructions for making minor adjustments.
  2. Complete wiring and control diagrams.
  3. Routine maintenance operations.
  4. Manufacturer's catalog data, service instructions, and parts lists for each piece of operating equipment.
  5. Copies of approved submittals.
  6. Copies of all manufacturers' warranties.
  7. Copies of test reports and verification submittals.
- E. Test and Balance Report: Submit electronic copies. Report shall be submitted for review prior to Substantial Completion, unless otherwise required by Division 1.
- F. Warranties: Submit copies of all manufacturers' warranties.
- G. Record Drawings: Submit record drawings.
- H. Acceptance will be made on the basis of tests and inspections of the work. A representative of firm that performed test and balance work shall be in attendance to assist. Contractor shall furnish necessary mechanics to operate system, make any necessary adjustments and assist with final inspection.

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This is a sample cover sheet. Use one for each shop drawing.

PROJECT NAME  
PROJECT NUMBER

SAMPLE

ARCHITECT/ENGINEER: Dell Consulting, LLC

CONTRACTOR: XYZ Construction

SUBCONTRACTOR: ABC Mechanical Contractor

SUPPLIER: Supply Company

MANUFACTURER: Manufacturer

DATE: MM/DD/YYYY

SECTION: 23 XX XX / Section Name

1. Description: Manufacturer, Model
2. Description: Manufacturer, Model
3. Description: Manufacturer, Model
4. Description: Manufacturer, Model
5. Description: Manufacturer, Model

Any standard heading is acceptable

List each item separately; include manufacturer name and model number

General Contractor's APPROVAL stamp must be on this sheet.

END OF SECTION

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**SECTION 230010 – CODES AND STANDARDS**

**PART 1 - GENERAL**

- 1.1 All work under Division 23 shall be constructed in accordance with the codes and standards listed herein. The design has been based on the requirements of these codes and standards. While it is not the responsibility of the Contractor to verify that all work called for complies with these codes and standards, the Contractor shall be responsible for calling to the Architect/Engineer's attention any details on the drawings or specifications that are not in conformance with these or other codes and standards.
- 1.2 Comply with regulations and codes of utility suppliers.
- 1.3 Where no specific method or form of construction is called for in the contract documents, the Contractor shall comply with code requirements when carrying out such work.
- 1.4 Where code conflict exists, the most stringent requirement applies. Comply with current code edition, unless noted.

**PART 2 - CODES**

- 2.1 The latest applicable version of the following codes shall govern all work:
1. International Building Code
  2. International Existing Building Code
  3. International Mechanical Code
  4. International Energy Conservation Code
  5. National Electric Code (NFPA 70)

**PART 3 - STANDARDS**

- 3.1 All mechanical materials, installation and systems shall meet the requirements of the following standards, including the latest addenda and amendments, to the extent referenced:
1. Underwriters' Laboratories (UL)
  2. American National Standards Institute (ANSI)
  3. American Society of Testing Materials (ASTM)
  4. National Fire Protection Association (NFPA)
  5. National Electrical Manufacturers Association (NEMA)
  6. Air Conditioning, Heating, and Refrigeration Institute (AHRI)
  7. American Society of Heating, Refrigerating, and Air Conditioning Engineers (ASHRAE)

**END OF SECTION**

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**SECTION 230020 – HVAC RELATED WORK**

**PART 1 - GENERAL**

- 1.1 Related Documents:
- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification sections, apply to this section.
  - B. This is a Common Work Results for HVAC section. Provisions of this section apply to work of all Division 23 sections.
  - C. Coordinate with the General Contractor for all cutting and patching. Contractors performing Division 23 work shall inform the General Contractor of all cutting and patching required prior to bidding and shall coordinate installation.

**PART 2 - DIVISION 26 – ELECTRICAL**

- 2.1 Mechanical contractor shall coordinate the exact electrical requirements of all mechanical equipment being provided with the electrical contractor. Where approval submittals are required, this coordination shall be accomplished prior to making the submittals. The electrical design shown on the drawings supports the mechanical equipment basis of design. If mechanical equipment is submitted with different electrical requirements, it is the responsibility of the mechanical contractor to resolve all required electrical design changes (wire and conduit size, type of disconnect or overload protection, point(s) of connection, etc.) and clearly show the new electrical design on the mechanical submittal with a written statement that this design will be provided at no additional cost. Mechanical submittals made with no written reference to the electrical design will be presumed to work with the electrical design. Any corrections required will be at no additional cost.
- 2.2 Mechanical contractor shall provide all HVAC control wiring including the Energy Management Control System sensors, alarms, and input/output signals and all relays, interlocks, warning lights, and control devices, complying with the requirements of Division 26. The intent is for the mechanical contractor to be responsible for the entire HVAC control system, including point-to-point wiring.
- 2.3 Electrical contractor shall provide disconnect switches, starters, and contactors for mechanical equipment unless specifically noted as being furnished as part of the mechanical equipment.
- 2.4 Electrical contractor shall provide all power wiring, raceway and devices, and make final electrical connections to all mechanical equipment, switches, starters, contactors, controllers, and similar equipment.

**END OF SECTION**

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**SECTION 230519 – METERS AND GAUGES**

**PART 1 - GENERAL**

1.1 Related Documents:

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification sections, apply to this section.
- B. This section is a Division 23 Common Work Results for HVAC section, and is part of each Division 23 section making reference to or requiring meters and gauges specified herein.
- C. Extent of meters and gauges required by this section is indicated on drawings and/or specified in other Division 23 sections.

1.2 Codes and Standards:

- A. UL Compliance: Comply with applicable UL standards pertaining to meters and gauges.
- B. ANSI and ISA Compliance: Comply with applicable portions of ANSI and Instrument Society of America (ISA) standards pertaining to construction and installation of meters and gauges.

1.3 Approval Submittals:

- A. Product Data: When required by other Division 23 sections, submit manufacturer's technical product data for each type of meter and gauge. Submit with Division 23 section using meters and gauges, not as a separate submittal. Include scale range, ratings, and calibrated performance curves, certified where indicated. Submit for:
  - 1. Thermometers
  - 2. Pressure Gauges
  - 3. Gauge Connector Plugs

1.4 O&M Data Submittals: Submit a copy of approval submittals. Submit calibration curves and operating instructions for each type of meter or gauge. Include in O&M Manual.

**PART 2 - PRODUCTS**

2.1 Acceptable Manufacturers (Thermometers and Pressure Gauges): Subject to compliance with requirements, provide thermometers and pressure gauges by: Ashcroft, Ernst Gauge Company, Weksler, Marshalltown Instruments, Trerice, Weiss Instruments, Wheatley, Fluidyne, or approved equal.

2.2 Glass Thermometers:

- A. General: Provide glass thermometers of materials, capacities, and ranges indicated, designed and constructed for use in service indicated.



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- B. Case: Die cast aluminum finished in baked epoxy enamel, glass front, spring secured, 9" long.
  - C. Adjustable Joint: Die cast aluminum, finished to match case, 180° adjustment in vertical plane, 360° adjustment in horizontal plane, with locking device.
  - D. Tube and Capillary: Mercury filled, magnifying lens, 1% scale range accuracy, shock mounted.
  - E. Scale: Satin faced, non-reflective aluminum, permanently etched markings.
  - F. Stem: Copper-plated steel or brass for separable socket, length to suit installation.
  - G. Range: Conform to the following:
    - 1. Chilled Water: 0° – 120°F with 1°F scale divisions.
- 2.3 Thermometer Wells: Provide thermometer wells constructed of brass or stainless steel, pressure rated to match piping system design pressure. Provide 2" extension for insulated piping. Provide cap nut with chain fastened permanently to thermometer well. Same manufacturer as thermometers.
- 2.4 Pressure Gauges:
- A. General: Provide liquid-filled pressure gauges of materials, capacities, and ranges indicated, designed and constructed for use in service indicated.
  - B. Type: General use, 1% accuracy, ANSI B40.1 grade A, phosphor bronze bourdon type, bottom connection.
  - C. Case: Drawn steel or brass, glass lens, 5" diameter.
  - D. Connector: Brass with 1/4" male NPT.
  - E. Scale: White coated aluminum with black scale.
  - F. Range: Select so that highest possible pressure does not exceed 75% of full scale.
- 2.5 Pressure Gauge Cocks:
- A. General: Provide 1/4" ball valves for use as pressure gauge cocks.
  - B. Snubber: 1/4" brass bushing with corrosion resistance porous metal disc, through which pressure fluid is filtered. Select disc material for fluid served and pressure rating.
- 2.6 Gauge Connector Plugs:
- A. Provide gauge connector plugs pressure rated for 500 psi and 200°F. Construct of brass and finish in nickel-plate, equip with 1/2" NPT fitting, with self-sealing valve core type neoprene gasketed orifice suitable for inserting 1/8" O.D. probe assembly from dial type insertion thermometer. Equip orifice with gasketed screw cap and chain. Provide extension, length equal to insulation thickness, for insulated piping. Pete's Plug or approved equal.
  - B. Provide master test kit with one 2-1/2" test gauge of suitable range, one gauge adapter probe, and one stem pocket testing thermometer (0°F – 220°F).

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**PART 3 - EXECUTION**

3.1 Installation of Temperature Gauges:

- A. General: Install temperature gauges in vertical upright position, and tilt so as to be easily read by observer standing on floor.
- B. Locations: Install in the following locations, and elsewhere as indicated:
  - 1. At inlet and outlet of each chiller.
- C. Thermometer Wells: Install in piping tee where indicated, in vertical upright position. Thermometers shall have at least 75% of stem in moving fluid.
- D. Temperature Gauge Connector Plugs: Install in piping tee where indicated, located on pipe at most readable position. Secure cap.

3.2 Installation of Pressure Gauges:

- A. General: Install pressure gauges in piping tee with pressure gauge cock, located on pipe at most readable position.
- B. Locations: Install in the following locations, and elsewhere as indicated:
  - 1. At inlet and outlet of each chiller.
- C. Pressure Gauge Cocks: Install in piping tee with snubber.
- D. Pressure Gauge Connector Plugs: Install in piping tee where indicated, located on pipe at most readable position. Secure cap.

3.3 Adjusting and Cleaning:

- A. Adjusting: Adjust faces of meters and gauges to proper angle for best visibility.
- B. Cleaning: Clean windows of meters and gauges and factory-finished surfaces. Replace cracked or broken windows. Repair any scratched or marred surfaces with manufacturer's touch-up paint.

**END OF SECTION**

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**SECTION 230523 – VALVES**

**PART 1 - GENERAL**

- 1.1 Related Documents:
- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification sections, apply to this section.
  - B. This section is a Division 23 Common Work Results for HVAC section, and is part of each Division 23 section making reference to or requiring valves specified herein.
  - C. Extent of valves required by this section is indicated on drawings and/or specified in other Division 23 sections.
- 1.2 Quality Assurance:
- A. Valve Dimensions: For face-to-face and end-to-end dimensions of flanged or welding-end valve bodies, comply with ANSI B16.10.
  - B. Valve Types: Provide valves of same type by same manufacturer.
- 1.3 Approval Submittals: When required by other Division 23 sections, submit product data, catalog cuts, specifications, and dimensioned drawings for each type of valve. Include pressure drop curve or chart for each type and size of valve. Submit valves with Division 23 section using the valves, not as a separate submittal. Submit valve comparison chart with applicable valves clearly marked if valves other than basis-of-design are to be used. For each valve, identify systems where the valve is intended for use.
- A. Ball Valves: Type BA.
  - B. Butterfly Valves: Type BF.
- 1.4 O&M Data Submittals: Submit a copy of approval submittals. Submit installation instructions, maintenance data, and spare parts lists for each type of valve. Include in O&M Manual.

**PART 2 - PRODUCTS**

- 2.1 General: Provide factory-fabricated valves recommended by manufacturer for use in service indicated. Provide valves of types and pressure ratings indicated; provide proper selection as determined by Installer to comply with specifications and installation requirements. Provide sizes as indicated, and connections which properly mate with pipe, tube, and equipment connections.
- 2.2 Acceptable Manufacturers: Subject to compliance with requirements, provide valves of one of the producers listed for each valve type. The model numbers are listed for Contractor's convenience only. In the case of a model number discrepancy, the written description shall govern.

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2.3 Ball Valves:

- A. General: Select with port area equal to or greater than connecting pipe area, include seat ring designed to hold sealing material.
- B. Construction: Ball valves shall be rated for 150 psi saturated steam and 600 psi non-shock cold water. Pressure containing parts shall be constructed of ASTM B-584 alloy 844, or ASTM B-124 alloy 377. Valves shall be furnished with blow-out proof bottom loaded stem constructed of ASTM B-371 alloy 694 or other approved low zinc material. Provide TFE packing, TFE thrust washer, chrome-plated ball and reinforced teflon seats. Valves 1" and smaller shall be full port design. Valves 1-1/4" and larger shall be conventional port design. Stem extensions shall be furnished for use in insulated piping where insulation exceeds 1/2" thickness.
- C. Comply with the following standards:
  - 1. MSS SP-72. Ball Valves with Flanged or Butt Welding Ends for General Service.
  - 2. MSS SP-110. Ball Valves Threaded, Socket-Welding, Solder Joint, Grooved and Flared Ends.
- D. Types of Ball (BA) Valves:
  - 1. Threaded Ends 2" and Smaller (BA1): Bronze two-piece full port body with adjustable stem packing. Nibco T-585-70. Stockham S216-BR-R-T. Milwaukee BA125. Apollo 77-100.
  - 2. Soldered Ends 2" and Smaller (BA2): Bronze three-piece full port body with adjustable stem packing. Nibco S-595-Y-66. Milwaukee BA350. Apollo 82-200.

2.4 Butterfly Valves:

- A. General: Comply with MSS SP-67, Butterfly Valves. Provide butterfly valves designed for tight shutoff. Where used for terminal or equipment removal or repair, select lug type valves. Select wafer type valves for other applications. Provide gear operators on all butterfly valves 6" and larger.
- B. Types of Butterfly (BF) Valves:
  - 1. Wafer Type 3" and Larger (BF1): 200 CWP, cast-iron body, lever-operated, cadmium-plated ductile iron disc, Type 410 stainless steel stem, EPT seat. Stockham LG-512. Nibco WD 2110-3. Crane 42-FXB-TL. Milwaukee MW222E-8416.
  - 2. Lug Type 3" and Larger (BF2): 200 CWP, cast-iron body, lever-operated, cadmium-plated ductile iron disc, Type 410 stainless steel stem, EPT seat. Stockham LG-712. Nibco LD 2110-3. Crane 44-FXB-TL. Milwaukee ML132B-8416.
  - 3. Wafer Type 3" and Larger (BF3): 150/200 CWP, cast-iron body, gear-operated, cadmium-plated ductile iron disc, Type 410 stainless steel stem, EPT seat. Stockham LG-522 and LG-521. Nibco WD 2110-5. Crane 42-FXB-G. Milwaukee MW 122B-8115.
  - 4. Lug Type 3" and Larger (BF4): 150/200 CWP, cast-iron body, gear-operated, cadmium-plated ductile iron disc, Type 410 stainless steel stem, EPT seat. Stockham LG-722 and LG-721. Nibco LD 2110-5. Crane 44-FXB-G. Milwaukee ML 132B-8115.

2.5 Valve Features:

- A. General: Provide valves with features indicated and, where not otherwise indicated, provide proper valve features as determined by Installer for installation requirements. Comply with ANSI B31.1.

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- B. Valve features specified or required shall comply with the following:
1. Flanged: Provide valve flanges complying with ANSI B16.1 (cast iron), ANSI B16.5 (steel), or ANSI B16.24 (bronze).
  2. Threaded: Provide valve ends complying with ANSI B2.1.
  3. Trim: Fabricate pressure-containing components of valve, including stems (shafts) and seats from brass or bronze materials, of standard alloy recognized in valve manufacturing industry unless otherwise specified.
  4. Non-Metallic Disc: Provide non-metallic material selected for service indicated in accordance with manufacturer's published literature.
  5. Renewable Seat: Design seat of valve with removable disc, and assemble valve so disc can be replaced when worn.
  6. Extended Stem: Increase stem length by 2" minimum, to accommodate insulation applied over valve.

**PART 3 - EXECUTION**

- 3.1 Installation:
- A. General: Install valves where required for proper operation of piping and equipment, including valves in branch lines to isolate sections of piping. Locate valves so as to be accessible and so that separate support can be provided when necessary. Install valves with stems pointed up, in vertical position where possible, but in no case with stems pointed downward below horizontal plane.
  - B. Insulation: Where insulation is indicated, install extended-stem valves, arranged in proper manner to receive insulation.
  - C. Applications Subject to Corrosion: Do not install bronze valves and valve components in direct contact with steel, unless bronze and steel are separated by dielectric insulator.
  - D. Selection of Valve Ends (Pipe Connections): Except as otherwise indicated, select and install valves with the following ends or types of pipe/tube connections:
    1. Pipe Size 2" and Smaller: Threaded valves.
    2. Pipe Size 2-1/2" and Larger: Flanged valves.
  - E. Non-Metallic Disc: Limit selection and installation of valves with non-metallic disc to locations indicated and where foreign material in piping system can be expected to prevent tight shutoff of metal seated valves.
  - F. Renewable Seats: Select and install valves with renewable seats, except where otherwise indicated.

**END OF SECTION**

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**SECTION 230529 – HANGERS AND SUPPORTS**

**PART 1 - GENERAL**

1.1 Related Documents:

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification sections, apply to this section.
- B. This section is a Division 23 Common Work Results for HVAC section, and is part of each Division 23 section making reference to or requiring hangers and supports specified herein.
- C. Extent of hangers and supports required by this section is indicated on drawings and/or specified in other Division 23 sections.

1.2 Codes and Standards:

- A. Code Compliance: Comply with applicable codes pertaining to product materials and installation of hangers and supports.
- B. MSS Standard Compliance:
  - 1. Provide pipe hangers and supports of which materials, design, and manufacture comply with ANSI/MSS SP-58.
  - 2. Select and apply pipe hangers and supports, complying with MSS SP-69.
  - 3. Terminology used in this section is defined in MSS SP-90.
- C. UL Compliance: Provide products which are UL listed.

**PART 2 - PRODUCTS**

2.1 Acceptable Manufacturers: Subject to compliance with requirements, provide supports and hangers by Grinnell, Michigan Hanger Company, B-Line Systems, or approved equal.

2.2 Horizontal-Piping Hangers and Supports: Except as otherwise indicated, provide factory-fabricated horizontal-piping hangers and supports complying with ANSI/MSS SP-58, of one of the following MSS types listed, selected by Installer to suit horizontal-piping systems, in accordance with MSS SP-69 and manufacturer's published product information. Use only one type by one manufacturer for each piping service. Select size of hangers and supports to exactly fit pipe size for bare piping, and to exactly fit around piping insulation with saddle or shield for insulated piping.

- A. Steel Double Bolt Pipe Clamps: MSS Type 3.
- B. Steel Pipe Clamps: MSS Type 4.
- C. Pipe Stanchion Saddles: MSS Type 37, including steel pipe base support and cast-iron floor flange.
- D. Single Pipe Rolls: MSS Type 41.

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- E. Pipe Roll Stands: MSS Type 44 or Type 47.
  
- 2.3 Building Attachments: Except as otherwise indicated, provide factory-fabricated building attachments complying with ANSI/MSS SP-58, of one of the following MSS types listed, selected by Installer to suit building substrate conditions, in accordance with MSS SP-69 and manufacturer's published product information. Select size of building attachments to suit hanger rods.
  - A. Concrete Inserts: MSS Type 18.
  
- 2.4 Saddles and Shields: Except as otherwise indicated, provide saddles or shields under piping hangers and supports, factory-fabricated, for all insulated piping. Size saddles and shields for exact fit to mate with pipe insulation.
  - A. Protection Shields: MSS Type 40, of length recommended by manufacturer to prevent crushing of insulation.
  
- 2.5 Miscellaneous Materials:
  - A. Metal Framing: Provide products complying with NEMA STD ML 1.
  - B. Steel Plates, Shapes and Bars: Provide products complying with ANSI/ASTM A 36.
  - C. Cement Grout: Portland cement (ANSI/ASTM C 150, Type I or Type III) and clean uniformly graded, natural sand (ANSI/ASTM C 404, Size No. 2). Mix at a ratio of 1.0 part cement to 3.0 parts sand, by volume, with minimum amount of water required for placement and hydration.

**PART 3 - EXECUTION**

- 3.1 Preparation:
  - A. Prior to installation of hangers, supports, and associated work, Installer shall meet at project site with Contractor, installer of each component of associated work, and installers of other work requiring coordination with work of this section for purpose of reviewing material selections and procedures to be followed in performing the work in compliance with requirements specified.
  
- 3.2 Installation of Building Attachments:
  - A. Install building attachments at required locations within concrete for proper piping support. Space attachments within maximum piping span length indicated in MSS SP-69. Install additional building attachments where support is required for additional concentrated loads, including valves, flanges, strainers, and at changes in direction of piping. Install concrete inserts before concrete is placed; fasten insert securely to forms. Where concrete with compressive strength less than 2500 psi is indicated, install reinforcing bars through openings at top of inserts.
  - B. In areas of work requiring attachments to existing concrete, use self drilling rod inserts, Phillips Drill Co., "Red-Head" or equal.
  
- 3.3 Installation of Hangers and Supports:
  - A. General: Install hangers, supports, clamps and attachments to support piping properly; comply with

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MSS SP-69. Arrange for grouping of parallel runs of horizontal piping to be supported together where possible. Install supports with maximum spacing complying with MSS SP-69 or as listed herein, whichever is most limiting.

1. Horizontal steel pipe 1-1/2" diameter and smaller: support on 6-foot centers.
  2. Horizontal steel pipe over 1-1/2" diameter: support on 10-foot centers.
- B. Install hangers and supports complete with necessary inserts, bolts, rods, nuts, washers and other accessories.
- C. Paint all black steel hangers with black enamel. Galvanized steel hangers do not require paint.
- D. Provision for Movement:
1. Load Distribution: Install hangers and supports so that piping live and dead loading and stresses from movement will not be transmitted to connected equipment.
  2. Pipe Slopes: Install hangers and supports to provide indicated pipe slopes, and so that maximum pipe deflections allowed by ANSI B31 are not exceeded.
- E. Insulated Piping: Comply with the following installation requirements:
1. Shields: Where low-compressive-strength insulation or vapor barriers are indicated, install coated protective shields.
  2. Clamps: Attach clamps, including spacers (if any), to piping with clamps projecting through insulation; do not exceed pipe stresses allowed by ANSI B31.
- 3.4 Equipment Bases:
- A. Provide concrete housekeeping bases for all floor mounted equipment furnished as part of the work of Division 23. Size bases to extend minimum of 6" beyond equipment base in any direction, and 4" above finished floor elevation. Construct of reinforced concrete, roughen floor slab beneath base for bond, and provide steel rod anchors between floor and base. Locate anchor bolts using equipment manufacturer's templates. Chamfer top and edge corners.

**END OF SECTION**



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**SECTION 230539 – TESTING, CLEANING, AND STERILIZATION FOR HVAC  
PIPING**

**PART 1 - GENERAL**

- 1.1 Related Documents:
- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification sections, apply to this section.
  - B. This section is a Division 23 Common Work Results for HVAC section, and is part of each Division 23 section making reference to or requiring the testing and other procedures specified herein.
  - C. Notify the Architect/Engineer when system tests are ready to be witnessed at least 24 hours prior to the test.
  - D. All materials, test equipment, and devices required for cleaning, testing, sterilizing, or purging shall be provided by the Contractor, unless otherwise noted.

**PART 2 - PRESSURE TESTS**

- 2.1 General: Provide temporary equipment for testing, including pump and gauges. Test piping systems before insulation is installed wherever feasible, and remove control devices before testing. Test each natural section of each piping system independently but do not use piping system valves to isolate sections where test pressure exceeds valve pressure rating. Fill each section with indicated medium and pressurize for indicated pressure and time.
- 2.2 Required test period is four hours.
- 2.3 No piping or equipment shall be concealed or covered until they have been tested. The contractor shall apply each test and ensure that it is satisfactory for the period specified before calling the Architect/Engineer to observe the test. Test shall be repeated upon request to the satisfaction of those making the inspection.
- 2.4 Observe each test section for leakage at the end of the test period. Test fails if leakage is observed or if pressure drop exceeds 5% of the test pressure.
- 2.5 Check of systems during application of test pressures should include visual check for water leakage and soap bubble.
- 2.6 Repair piping systems sections which fail required piping test. Disassemble and re-install using new materials to extent required to overcome leakage. Do not use chemicals, stop-leak compounds, mastics, or other temporary repair methods.

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2.7 Pressure Test Requirements:

- A. Chilled Water: Perform hydrostatic test at 150% of the normal operating pressure, but not less than 100 psig.

**PART 3 - CLEANING AND STERILIZATION**

3.1 General: Clean exterior surfaces of installed piping systems of superfluous materials, and prepare for application of specified coatings (if any). Flush out piping systems with clean water before proceeding with required tests. Inspect each run of each system for completion of joints, supports and accessory items.

3.2 Flush and drain all water systems at least three times. Reverse flush systems from smallest piping to largest piping. Replace startup strainers with operating strainers.

3.3 Chilled Water Pipe Cleaning: After completion of all work and operational check out of the HVAC installations and prior to acceptance of the project by the Owner, the following shall be accomplished. The completed piping systems shall be thoroughly flushed (reversed flushing) as needed to remove all dirt, debris, and any foreign matter that may have been trapped in the piping systems during construction. After flushing of systems is complete, the Contractor shall clean all main strainers and all strainers at air handlers, pumps, and fan coil units. A second cleaning of all strainers will be required if requested by the Engineer. Contractor shall furnish and install all valves and piping stub-outs in the piping systems as needed to accommodate this flushing operation. Install the valves and stub-outs at a location and in a manner that will allow them to remain in place for future flushing operations. The flushing and strainer cleaning operations shall be witnessed and approved by the Engineer and Owner's representative.

**END OF SECTION**

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**SECTION 230548 – VIBRATION ISOLATION**

**PART 1 - GENERAL**

1.1 Related Documents:

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification sections, apply to this section.
- B. This section is a Division 23 Common Work Results for HVAC section, and is part of each Division 23 section making reference to or requiring vibration isolation specified herein.
- C. Extent of work required by this section is indicated on drawings and/or specified in other Division 23 sections. Types of vibration isolation specified in this section include equipment support isolators and flexible pipe connectors.

1.2 Quality Assurance:

- A. Manufacturer's Qualifications: Firms regularly engaged in manufacture of vibration isolation, of types and sizes required, whose products have been in satisfactorily used in similar service for not less than five years.
- B. Comply with ASME B31 – Pressure Piping.
- C. All equipment provided under Division 23 shall operate under all conditions of load, free of objectionable sound and vibration. Sound and vibration conditions considered objectionable by the Architect/Engineer shall be corrected in an approved manner.

1.3 Approval Submittals:

- A. Product Data: Where required by other Division 23 sections, submit product data sheets for each type of vibration isolation equipment including configuration and rating data. Submit with Division 23 Section using vibration isolation, not as a separate submittal. Provide calculations showing supported weight, deflection, and isolator size and type for each item of supported equipment. Submit for:
  - 1. Equipment Mountings. Type EM.
  - 2. Pipe Flexible Connections. Type PF.

1.4 O&M Data Submittals: Submit a copy of approval submittals. Include in O&M Manual.

**PART 2 - PRODUCTS**

2.1 General: Provide factory-fabricated products recommended by manufacturer for use in service indicated. Provide products of types and deflections indicated; provide proper selection as determined by Installer to comply with specifications and installation requirements. Provide sizes which properly fit with equipment. All metal parts installed outside shall be hot-dipped galvanized after fabrication.

2.2 Acceptable Manufacturers: Subject to compliance with requirements, provide vibration isolation

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equipment of: Mason Industries, Keflex, Consolidated Kinetics, Vibration Mountings & Controls, Wheatley, or approved equal. All vibration isolators shall be supplied by a single approved manufacturer.

2.3 Equipment Mountings:

- A. Select mountings with the required deflection and fastening means. Provide steel rails or bases as required to compensate for equipment rigidity and overhang.
- B. Types of equipment mountings (EM):
  - 1. Spring Mountings with Housings (EM2): Spring isolators shall consist of open, stable steel springs and include vertical travel limit stops to control extension when weight is removed. The housing of the spring unit shall serve as blocking during erection of equipment. Provide a nominal static deflection of at least 1.0". All mountings used outside shall be hot-dipped galvanized. Basis of Design: Mason Industries SLR.

2.4 Pipe Flexible Connections:

- A. Select pipe flexible connections suitable for duty indicated with ends to match piping system.
- B. Types of pipe flexible connections (PF):
  - 1. Chiller Connections (PF2): Provide EPDM and dacron or neoprene and nylon flexible connectors rated at 200 psi and 250°F. Connectors shall have the number of spheres required and ductile iron floating flanges with baked enamel finish. Provide control rods or cables as required for each application. Basis of Design: Mason Industries SFEJ.

**PART 3 - EXECUTION**

3.1 General:

- A. Install vibration isolation devices for the duty indicated and for ease of inspection, adjustment, and proper operation. Install in accordance with the manufacturer's written instructions and coordinate with shop drawings of supported equipment.
- B. All connections to devices and equipment shown on the drawings shall be considered diagrammatic unless otherwise indicated by detail. The actual connections shall be made to fully suit the requirements of each case and adequately provide for expansion and servicing.
- C. Piping and conduit shall not be suspended from one another or physically contact one another. Vibrating systems shall be kept free from non-vibrating systems.

3.2 Equipment Mountings:

- A. Unless otherwise shown or specified, all floor-mounted equipment shall be set on housekeeping equipment bases. Refer to Division 23 section "Hangers and Supports".
- B. No equipment unit shall bear directly on vibration isolators unless its own frame is suitably rigid to span between isolators, and such direct support is approved by the equipment manufacturer. All support frames shall be sufficiently stiff and rigid so as to prevent distortion and misalignment of components installed thereon.

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- C. Align equipment mountings for a free, plumb installation. Isolators that are binding, offset or fully compressed will not be accepted.
- 3.3 Pipe Flexible Connections:
- A. Piping connected to vibration isolated equipment shall be installed so that it does not strain or force out of alignment the vibration isolators supporting the basic equipment, nor shall pipes restrict such equipment from "floating" freely on its respective vibration isolation system. Flexible connections shall be used to eliminate transferring vibration along piping.
  - B. Flexible connections and hoses shall not be used to compensate for pipe misalignment. Units shall be aligned so that the flexible connection is not distorted perpendicular to the axis of the piping.
  - C. Install flexible connections in chiller inlet and outlet, and where shown on the drawings or required by equipment specifications.
  - D. Drain piping connected to vibrating equipment shall not physically contact any building construction or non-isolated systems or components.

**END OF SECTION**

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**SECTION 230553 – HVAC IDENTIFICATION**

**PART 1 - GENERAL**

- 1.1 Related Documents:
- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification sections, apply to this section.
  - B. This section is a Division 23 Common Work Results for HVAC section, and is part of each Division 23 section making reference to or requiring identification devices specified herein.
  - C. Extent of HVAC identification work required by this section is indicated on drawings and/or specified in other Division 23 sections.
  - D. Refer to Division 26 sections for identification requirements of electrical work (not work of this section). Refer to other Division 23 sections for identification requirements for HVAC controls (not work of this section).
- 1.2 Codes and Standards: Comply with ANSI A13.1 for lettering size, length of color field, colors, and viewing angles of identification devices.

**PART 2 - PRODUCTS**

- 2.1 General: Provide manufacturer's standard products of categories and types required for each application as referenced in other Division 23 sections. Where more than a single type is specified for application, selection is the Contractor's option, but provide single selection for each product category.
- 2.2 Plastic Pipe Markers:
- A. Pressure-Sensitive Type: Provide manufacturer's standard pre-printed, permanent adhesive, color-coded, pressure-sensitive vinyl pipe markers.
  - B. Lettering: Manufacturer's standard pre-printed nomenclature which best describes piping system in each instance, as selected by Architect/Engineer in cases of variance with name as shown or specified.
  - C. Arrows: Print each pipe marker with arrows indicating direction of flow, either integrally with piping system service lettering (to accommodate both directions), or as separate unit of plastic.
- 2.3 Engraved Plastic-Laminate Signs:
- A. General: Provide engraving stock melamine plastic laminate, in the sizes and thicknesses indicated, engraved with engraver's standard letter style a minimum of 3/4" tall and wording indicated, punched for mechanical fastening except where adhesive mounting is necessary because of substrate.
  - B. Thickness: 1/16" for units up to 20 square inches or 8" length; 1/8" for larger units.
  - C. Fasteners: Self-tapping stainless steel screws, except contact-type permanent adhesive where screws

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cannot or should not penetrate the substrate.

- 2.4 Stamped Nameplates: Provide equipment manufacturer's standard stamped nameplates for chillers.

**PART 3 - EXECUTION**

- 3.1 Coordination: Where identification is to be applied to surfaces which require insulation or other covering or finish, install identification after completion of covering.

3.2 Piping System Identification:

- A. General: Install pipe markers of the following type on each system indicated to receive identification, and include arrows to show normal direction of flow:

1. Plastic pipe markers.

- B. Locate pipe markers as follows wherever piping is exposed to view in occupied spaces, machine rooms, accessible maintenance spaces and exterior non-concealed locations.

1. Near each valve and control device.

2. Near major equipment items and other points of origination and termination.

3.3 Mechanical Equipment Identification:

- A. General: Install engraved plastic laminate sign on or near each major item of mechanical equipment and each operational device. Label shall indicate type of system and area served. Provide signs for the following general categories of equipment and operational devices:

1. Chillers and similar equipment.

- 3.4 Stamped Nameplates: Equipment manufacturers to provide standard stamped nameplates on all major equipment items such as chillers. Where motors are hidden from view (within equipment casing, or otherwise not easily accessible, etc.), the equipment supplier shall furnish a duplicate motor data nameplate to be affixed to the equipment casing in an easily visible location, unless data is already included on the equipment nameplate.

3.5 Adjusting and Cleaning:

- A. Relocate any mechanical identification device which has become visually blocked by work of this division or other divisions.

B. Clean face of each identification device.

**END OF SECTION**

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**SECTION 230590 – STARTUP REQUIREMENTS FOR HVAC SYSTEMS**

**PART 1 - GENERAL**

- 1.1 It is the intent of this section to require that the startup requirements and report noted herein be performed prior to starting TAB work on each system. Work can be phased with permission of the Engineer.
- 1.2 Coordination:
- A. The Contractor shall furnish to the TAB Contractor a complete set of plans, specifications, addenda, shop drawings, equipment performance data sheets, change orders, etc. as requested by the TAB Contractor.
  - B. The Contractor shall participate in a TAB coordination meeting to discuss interface requirements with the TAB Contractor and to establish a schedule for TAB work prior to start of TAB work.
- 1.3 Test Reports and Verification Submittals: Submit Startup Report as described herein for each system. Attach Factory Startup Report for equipment as required by other Division 23 sections.

**PART 2 - PRODUCTS: None**

**PART 3 - EXECUTION**

- 3.1 General:
- A. The TAB work shall not commence until the Engineer has received written notice from the Contractor that HVAC systems are 100% complete and are fully operational. Submit Startup Report as described herein.
  - B. The Contractor shall place all HVAC systems and equipment into complete operation during each working day of TAB work.
  - C. The TAB Contractor will provide to the Contractor TAB punch lists of non-complying HVAC work as they are discovered. The Contractor shall replace or repair non-complying work as soon as possible in order not to delay completion of TAB work.
- 3.2 Hydronic Systems: The Contractor shall provide the following information to the Engineer to substantiate proper startup and preliminary adjustments of HVAC piping systems.
- A. Verify that the hydronic systems are properly flushed, filled, vented, purged and chemically treated and that all leaks are repaired. Verify proper air venting.
  - B. Verify that the correct strainer screens are clean and installed.
  - C. Verify proper flow direction.
  - D. Verify that test ports, pressure gauges and thermometers are properly installed and are accessible at chillers. Extensions to allow for pipe insulation are required.



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E. Verify that HVAC control systems for chillers are fully operational.

3.3 Startup Report: The Contractor shall submit the startup information required by this section to the Engineer in a typed report organized as outlined herein. The Startup Report is required to meet the written notice described herein prior to starting TAB work. TAB work will not start until the Startup Report has been submitted and approved.

**END OF SECTION**

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**SECTION 230593 – TESTING, ADJUSTING, AND BALANCING**

**PART 1 - GENERAL**

- 1.1 References to Other Sections: Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification sections, apply to work of this section. Division 23 Common Work Results for HVAC sections apply to work of this section.
- 1.2 Scope of Work: Extent of testing, adjusting, and balancing work (TAB) is indicated by the requirements of this section, and also by drawings and schedules. TAB is defined to include, but is not necessarily limited to, hydronic distribution systems and associated equipment and apparatus of mechanical work. The work consists of setting volume (flow) adjusting facilities provided for systems, recording data, conducting tests, preparing and submitting reports, and recommending modifications to work as required.
- 1.3 Pretesting: Where required by the drawings or other Division 23 sections, pretest existing HVAC systems as directed and report findings prior to start of demolition work or any other modifications to the existing systems. Results of pretesting shall be reported to the Engineer in a timely manner. Comply with standards for final TAB reports described herein.
- 1.4 Coordination: Coordinate with the General Contractor and Mechanical Contractor responsible for the HVAC system installation as required to complete the TAB work.
- 1.5 Description of Work:
- A. Components to be tested, adjusted, and balanced specified in this section shall include the following as applied to mechanical equipment:
1. Chillers
  2. Piping systems
- 1.6 Tolerances: The intent of this specification to balance HVAC systems within the tolerances listed, maintaining the pressure relationships indicated, with a minimum of noise.
- A. Temperature Tolerances:
1. Chilled Water Temperatures: Chilled water controlled temperature from chillers shall be under control within  $\pm 1^{\circ}\text{F}$ .
- B. Hydronic Flow: Balance hydronic flow rates to within  $\pm 10\%$  of design values.
- 1.7 Quality Assurance:
- A. The TAB contractor shall meet one of the following:
1. A firm certified by National Environmental Balancing Bureau (NEBB) in those testing and balancing disciplines required for this project, which is not the installer of the system to be tested and is otherwise independent of project. Comply with NEBB's "Procedural Standards for Testing, Adjusting and Balancing of Environmental Systems" as applicable to this work.
  2. A firm certified by Associated Air Balance Council (AABC) in those testing and balancing disciplines required for this project. AABC-certified firms are independent by definition.

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Comply with AABC's Manual MN-1 "AABC National Standards", as applicable to this work.

- B. Industry Standards: Comply with American Society of Heating, Refrigerating and Air-Conditioning Engineers, Inc. (ASHRAE) recommendations pertaining to measurements, instruments, and testing, adjusting and balancing, except as otherwise indicated.
- 1.8 Job Conditions:
- A. Do not proceed with testing, adjusting, and balancing work until HVAC work (including controls) has been completed and system is operable. Ensure that there is no residual work still to be completed.
  - B. Do not proceed until system scheduled for testing, adjusting, and balancing is clean and free from debris, dirt and discarded building materials.
  - C. Testing may proceed system by system, but each HVAC system must be completed as described herein.
- 1.9 Approval Submittals:
- A. Submit the name of the proposed test and balance company for the Engineer's approval within thirty (30) days after awarding of contract.
  - B. Submit copies of the dated test and balance report upon completion of TAB work. The report shall include a list of instruments used for the work. The report shall be signed by the supervisor who performed the TAB work, and certified by a professional engineer registered in the state of Alabama, who is a regular employee of the TAB firm.

**PART 2 - PRODUCTS**

- 2.1 Test Instruments: Utilize test instruments and equipment of the type, precision, and capacity as recommended in the referenced standard. All instruments shall be in good condition and shall have been calibrated within the previous twelve (12) months, or more recently if required by standard.

**PART 3 - EXECUTION**

- 3.1 General:
- A. Examine installed work and conditions under which testing is to be done to ensure that work has been completed, cleaned and is operable. Do not proceed with TAB work until unsatisfactory conditions have been corrected in manner acceptable to the tester.
  - B. Test, adjust and balance environmental systems and components, as indicated, in accordance with procedures outlined in applicable standards, and as modified or detailed herein.
  - C. Test, adjust and balance system during summer season for air conditioning systems, including at least a period of operation during outside conditions within 5°F dry bulb temperature of maximum summer design condition. When seasonal operation does not permit measuring final temperatures, take final temperature readings when seasonal operation does permit. The Contractor shall return for a change of seasons test at no additional cost to the Owner and submit the revised TAB report.
  - D. Punch List: Prepare a deficiency (punch) list for the Contractor with a copy to the Engineer that lists

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all items that are incorrectly installed or are functioning improperly. Provide a retest after all items are corrected.

- E. Prepare TAB Report of test results, including instrumentation calibration reports, in the format recommended by applicable standards, modified as required to include all data listed herein.
  - F. Include in the TAB Report recommendations for correcting unsatisfactory mechanical performances when system cannot be successfully balanced.
  - G. Include an extended warranty of ninety (90) days after completion of testing, adjusting, and balancing work, during which time the Engineer, at his discretion, may request a recheck, or resetting of any component as listed in test report. TAB contractor shall provide technicians and instruments and make any tests required by the Engineer during this time period.
- 3.2 Controls:
- A. Check all temperature sensors for location and calibration.
  - B. Check operation of all controllers and controlled devices to verify proper action and connection. Check operation of all interlocks.
  - C. Check all control valves for tight closure under all operating conditions.
- 3.3 Water Balancing:
- A. Verify proper operation of all hydronic system devices to ensure the proper flow rate, flow direction and pressure are maintained.
- 3.4 Chiller Performance:
- A. Chiller shall be operating at full load (plus or minus 10%).
  - B. Record the following in addition to other requirements:
    - 1. Chiller nameplate data.
    - 2. Compressor head pressure and suction pressure.
    - 3. Refrigerant liquid and suction temperature.
    - 4. Type of refrigerant and charge.
    - 5. Oil pressure.
    - 6. Unit kW consumption (not only amp draw).
    - 7. Ambient air temperature.
  - C. Calculate the following:
    - 1. Chiller output in tons ( $500 \times \text{GPM} \times \text{DT} / 12,000$ ).
    - 2. Chiller EER at test conditions in  $\text{Btu/watt hr}$  ( $\text{Output tons} \times 12 / \text{kW Input}$ ).
  - D. Coordination:
    - 1. Coordinate with the chiller factory-trained representative for performance tests.
    - 2. Temperatures and flow rates are required to be recorded elsewhere in this section. These data may be used for the performance calculations provided steady state conditions are established at the required load, and all systems have been balanced and are operating as specified.
  - E. Abbreviations:
    - 1. GPM - gallons per minute.
    - 2. DT - temperature difference across chiller.

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3.5 Data Collection:

- A. In addition to the data required for any specified performance tests, measure and record the temperatures, pressures, flow rates, and nameplate data for all components listed herein.
- B. It is the intent of this section to record data on balanced systems, under normal operating or design conditions.
- C. Temperatures:
  - 1. Outside dry and wet bulb temperatures.
  - 2. Inlet and outlet temperature of each chiller.
- D. Pressures:
  - 1. Water pressure drop through each chiller.
- E. Flow rates:
  - 1. Water flow rate through each chiller.
- F. Nameplate Data:
  - 1. Complete nameplate data for all other equipment.
  - 2. Motor data to include horsepower, phase, voltage, RPM, full load nameplate current, fuse rating in disconnect switch, number or manufacturer's size designation, and ampere rating of overcurrent and low voltage protection devices in starters.

**END OF SECTION**

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**SECTION 230716 – HVAC EQUIPMENT INSULATION**

**PART 1 - GENERAL**

- 1.1 Related Documents:
- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification sections, apply to this section.
  - B. Division 23 Common Work Results for HVAC sections apply to work of this section.
- 1.2 Approval Submittals:
- A. Product Data: Submit manufacturer's product data sheets and installation instruction on each insulation system including insulation, coverings, adhesives, sealers, protective finishes, and other material recommended by the manufacturer for applications indicated. Submit for:
    - 1. Cellular glass equipment insulation.
    - 2. Flexible unicellular equipment insulation.
- 1.3 O&M Data Submittals: Submit a copy of all approval submittals. Include in O&M Manual.

**PART 2 - PRODUCTS**

- 2.1 Acceptable Manufacturers: Subject to compliance with requirements, provide insulation products by Knauf, Owens-Corning, Johns Manville, Certainteed, Pittsburgh Corning, or approved equal.
- 2.2 Flame/Smoke Ratings: Provide composite mechanical insulation (insulation, coverings, sealers, mastic, and adhesive) with a flame spread rating of 25 or less, and a smoke-developed rating of 50 or less as tested by ANSI/ASTM E84.
- 2.3 Equipment Insulation Materials:
- A. Cellular Glass Equipment Insulation: ASTM C552, Type I, flat uncovered blocks.
  - B. Flexible Unicellular Pipe Insulation: ASTM C534, Type II (sheet, suitable for up to 200°F).
  - C. Jacketing Material for Equipment Insulation: Provide 8-ounce canvas jacket, except as otherwise indicated.
  - D. Equipment Insulation Compounds: Provide adhesives, cements, sealers, mastics, and protective finishes as recommended by insulation manufacturer for applications indicated.
  - E. Equipment Insulation Accessories: Provide staples, bands, wire, wire netting, tape corner angles, anchors, stud pins and metal covers as recommended by insulation manufacturer for applications indicated.

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**PART 3 - EXECUTION**

3.1 General:

- A. Install thermal insulation products in accordance with manufacturer's written instructions, and in compliance with recognized industry practices to ensure that insulation serves intended purpose.
- B. Install insulation materials with smooth and even surfaces and on clean and dry surfaces. Redo poorly fitted joints. Do not use mastic or joint sealer as filler for gapping joints and excessive voids resulting from poor workmanship.
- C. Maintain integrity of vapor barrier on insulation and protect it to prevent puncture and other damage. Label all insulation "ASBESTOS FREE".
- D. Do not apply insulation to surfaces while they are hot or wet.
- E. Do not install insulation until systems have been checked and found free of leaks. Surfaces shall be clean and dry before attempting to apply insulation. A professional insulator with adequate experience and ability shall install insulation.

3.2 Installation Cellular Glass Equipment Insulation:

- A. Insulate the following equipment:
  - 1. Water chiller, chiller heads, float chamber: 2" thick.
- B. Carefully cut and fit blocks to curvature of the surface of the equipment in staggered joint fashion. For equipment requiring maintenance access, fabricate boxes with removable insulation sections. Chilled water equipment metal surfaces in contact with cellular glass shall be carefully covered with bedding mastic, except pumps and other equipment requiring maintenance access. Apply vapor barrier mastic to all edges and joints in the insulation. Fasten insulation in place with stainless steel wire 9-inch on centers. Provide heavy coat of vapor barrier sealant over the cellular glass. Embed a layer of open weave glassfab cloth in mastic, overlap joints at least two inches and smooth surfaces. Apply a finish coat of machinery grey general purpose mastic heavy enough to hide weave in cloth and finish to smooth surface.

3.3 Installation Flexible Unicellular Equipment Insulation:

- A. Insulate the following equipment:
  - 1. Water chiller, chiller heads, float chamber: 2" thick.
- B. Carefully cut and fit sheets to curvature of the surface of the equipment in staggered joint fashion. Insulate in accordance with manufacturer's written instructions. For equipment requiring maintenance access, fabricate with removable insulation sections.

**END OF SECTION**

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**SECTION 230719 – HVAC PIPING INSULATION**

**PART 1 - GENERAL**

1.1 Related Documents:

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification sections, apply to this section.
- B. Division 23 Common Work Results for HVAC sections apply to work of this section.

1.2 Approval Submittals:

- A. Product Data: Submit manufacturer's product data sheets and installation instruction on each insulation system including insulation, coverings, adhesives, sealers, protective finishes, and other material recommended by the manufacturer for applications indicated. Submit for:
  - 1. Cellular glass pipe above-ground insulation.

1.3 O&M Data Submittals: Submit a copy of all approval submittals. Include in O&M Manual.

**PART 2 - PRODUCTS**

2.1 Acceptable Manufacturers: Subject to compliance with requirements, provide insulation products by Knauf, Owens-Corning, Johns Manville, Certainteed, Pittsburgh Corning, U.S. Rubber, or approved equal.

2.2 Flame/Smoke Ratings: Provide composite mechanical insulation (insulation, coverings, sealers, mastic, and adhesive) with a flame spread rating of 25 or less, and a smoke-developed rating of 50 or less as tested by ANSI/ASTM E84.

2.3 Pipe Insulation Materials:

- A. Cellular Glass Pipe Insulation: ASTM C552, Type II, Class 1 (uncovered).
- B. Staples, Bands, Wires, and Cement: As recommended by the insulation manufacturer for applications indicated.
- C. Adhesives, Sealers, Protective Finishes: Products recommended by the insulation manufacturer for the application indicated.
- D. Bedding Compound for CHW Systems: Provide products to completely cover the piping or equipment being insulated. Products shall be low odor type. Foster 30-45 or Foster 95-50.
- E. Jackets: ASTM C921, Type I (vapor barrier) for piping below ambient temperature, Type II (vapor permeable) for piping above ambient temperature. Type I may be used for all piping at Installer's option.



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**PART 3 - EXECUTION**

3.1 General:

- A. Install thermal insulation products in accordance with manufacturer's written instructions, and in compliance with recognized industry practices to ensure that insulation serves intended purpose.
- B. Install insulation materials with smooth and even surfaces and on clean and dry surfaces. Redo poorly fitted joints. Do not use mastic or joint sealer as filler for gapping joints and excessive voids resulting from poor workmanship.
- C. Do not apply insulation to surfaces while they are hot or wet.
- D. Do not install insulation until systems have been checked and found free of leaks. Surfaces shall be clean and dry before attempting to apply insulation. A professional insulator with adequate experience and ability shall install insulation.
- E. Do not install insulation on pipe systems until acceptance tests have been completed.

3.2 Installation Cellular Glass Pipe Insulation (Above-Ground):

- A. Insulate the following piping systems:
  - 1. Chilled water: smaller than 6" pipe = 1-1/2" thick; 6" and larger pipe = 2" thick.
- B. Outdoor Locations: Cut insulation in sections and carefully fit to the pipe and fittings. Apply cellular glass bedding compound to the pipe surface to achieve 100% coverage (chilled water piping only). Apply vapor barrier mastic to all edges of the cellular insulation and between joints in the insulation. Wire the cellular glass in place with stainless steel wire 9 inches on center. Provide hanger or pipe support shields of 16 gauge (minimum) galvanized steel over or embedded in the insulation which extend halfway up the pipe insulation cover and at least 4 inches on each side of the hanger. Insulate anchors adequately to prevent moisture condensation problems. Finish cellular glass by applying a heavy coat of weather barrier sealant reinforced with white glass fabric to the exterior of the cellular glass. Cover straight piping with 0.016" (minimum) thickness smooth aluminum jacket fastened with aluminum bands on not over 12" centers. Use factory-made 0.014" (minimum) aluminum covers for fittings and valves. Provide removable end caps for strainers. Metal jacketing shall be applied with the longitudinal seam positioned to shed water.

**END OF SECTION**

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**SECTION 230900 – INSTRUMENTATION AND CONTROLS**

**PART 1 - GENERAL**

1.1 Related Documents:

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification sections, apply to this section.
- B. Division 23 Common Work Results for HVAC sections apply to work of this section.
- C. Extent of Energy Management Control and DDC Systems (EMCS/DDC) work required by this section is indicated on drawings and input/output schedules, and by requirements of this section. The EMCS/DDC shall consist of all control sensors, controllers, software, relays, transformers, automatic valves, actuators, switches, panels, and necessary equipment and wiring to provide a complete and fully-functional system. Control sequences are specified on drawings.
- D. Refer to other Division 23 sections for installation of instrument wells and valve bodies in mechanical systems (not work of this section).
- E. Refer to Division 26 sections for power supply wiring from power source to power connection on controls and/or EMCS panels. Include starters, disconnects, and required electrical devices, except where specified as furnished, or factory-installed, by manufacturer.
- F. Provide the following electrical work as work of this section, complying with requirements of Division 26 sections: control wiring between field-installed controls, equipment, indicating devices, and EMCS/DDC panels.

1.2 Codes and Standards:

- A. Electrical Standards: Provide electrical products which have been tested, listed and labeled by UL and comply with NEMA standards.
- B. NEMA Compliance: Comply with NEMA standards pertaining to components and devices for electric control systems.
- C. NFPA Compliance: Comply with NFPA 90A "Standard for the Installation of Air Conditioning and Ventilating Systems" where applicable to controls and control sequences.
- D. FCC Compliance: Comply with Federal Communication Commission (FCC) as required.
- E. ASHRAE Standards: Comply with ASHRAE Standard 135-2016 "BACnet® - A Data Communication Protocol for Building Automation and Control Networks".

1.3 Approval Submittals:

- A. Product Data: Submit manufacturer's technical product data for each EMCS/DDC panel and control device furnished, indicating dimensions, capacities, performance characteristics, electrical characteristics, finishes of materials. Include installation instructions and startup instructions. Provide technical specification data for each component and software module.
- B. Shop Drawings: Submit shop drawings for the EMCS/DDC containing the following information:

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1. Schematic flow diagram of system showing pumps, chillers, valves, and control devices.
  2. Indicate all required electrical wiring. Clearly differentiate between portions of wiring that are factory-installed and portions to be field-installed. The point-to-point wiring diagram shall show all interconnections.
  3. Provide details of faces of EMCS/DDC panels, including controls instruments and labeling.
  4. Include written description of sequence of operation.
- 1.4 Test Reports and Verification Submittals: Submit system verification letter from manufacturer's representative stating that all HVAC controls have been checked, calibrated, started up, and verified for proper operation.
- 1.5 O&M Data Submittals:
- A. Maintenance Data: Submit maintenance instructions and spare parts lists for each type of control device. Include that type data, and a copy of all approval submittals, in O&M Manual.
  - B. Service: Submit name, address, and telephone number of company that will provide service and training for the system.

**PART 2 - PRODUCTS**

- 2.1 Acceptable Manufacturers: Subject to compliance with requirements, provide EMCS/DDC control systems to match existing controls system serving building.
- 2.2 General:
- A. Provide EMCS/DDC control products in sizes and capacities indicated, consisting of valves, sensors, controllers, and other components as required for complete installation. Except as otherwise indicated, provide manufacturer's standard control system components as indicated by published product information, designed and constructed as recommended by manufacturer. Provide an EMCS/DDC controls system with the following functional and construction features as indicated.
- 2.3 Quality Assurance:
- A. Provide equipment of firms regularly engaged in manufacture of EMCS/DDC equipment, of types required, whose products have been in satisfactory use in similar service for not less than three years. Provide evidence that software has been in use satisfactorily for at least one year.
  - B. Contractor shall have at least three years of experience in the installation and servicing of EMCS/DDC equipment similar to that being installed. Contractor shall have an office within 100 miles of the project and shall maintain a remote terminal capable of communication with the EMCS/DDC during the year warranty period. The local office shall have certified technicians capable of working on the installed system in order to service and warranty the installation. The local office shall also maintain a supply of spare parts.

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- 2.4 EMCS/DDC Input Devices:
- A. Temperature Sensors: Provide resistance temperature detector (RTD) or thermistor type sensors for duct, well, or room mounting as required by duty indicated. Duct-mounted sensors having greater than 20 sq. ft. cross section shall be serpentine averaging type. Accuracy:  $\pm 0.5^{\circ}\text{F}$ .
  - B. Pressure Transmitters: Provide 0-5 VDC, 0-10 VDC or 4-20 mA pressure transmitters where indicated or required by the sequence of operation. Accuracy:  $\pm 1\%$  of span.
  - C. Hydronic Differential Pressure Transmitter: Provide self-contained, variable capacitance type differential pressure transmitters with the following features.
    - 1. Sealed electronics compartment, suitable for duty at  $90^{\circ}\text{F}$ , 100% RH. Provide NEMA 4 enclosure.
    - 2. Output 4-20 ma DC, isolated linear signal.
    - 3. Design pressure: 2000 psi, design overrange differential: 2000 psi with minimal adverse effect on output.
    - 4. Accuracy:  $\pm 0.25\%$  of span.
    - 5. Stability:  $\pm 0.25\%$  of range limit.
- 2.5 Control Valves: Provide factory-fabricated electronic control valves of type, body material and pressure class indicated. Where type or body material is not indicated, provided selection as determined by manufacturer for installation requirements and pressure class, based on maximum pressure and temperature rating of piping system. Provide valve size in accordance with scheduled or specified maximum pressure drop across control valve. Except as otherwise indicated, provide valves which mate and match material of connecting piping. Equip control valves actuators with proper shutoff ratings for each individual application.
- A. Water Service Valves: Equal percentage characteristics with rangeability of 50 to 1, and maximum full flow pressure drop of 10 feet head unless otherwise indicated. Two-way valves shall be suitable for dead-end service.
  - B. Valve Trim and Stems: Polished stainless steel.
  - C. Packing: Spring-loaded Teflon, self-adjusting.
- 2.6 Actuator Motors: Size each actuator to operate valves with sufficient reserve power to provide smooth modulating action or two-position action as specified.
- A. Provide permanent split-capacitor or shaded pole type motors with gear trains completely oil-immersed and sealed. Equip spring-return actuators, where indicated on drawings or in operational sequence, with integral spiral-spring mechanism. Furnish entire mechanism in housing designed for easy removal for service or adjustment of limit switches, auxiliary switches, or feedback potentiometer.
  - B. Equip motors for outdoor locations and for outside air intakes with "O-ring" gaskets designed to make motors completely weatherproof, and equip with internal heaters to permit normal operation at  $10^{\circ}\text{F}$ .
- 2.7 Guarantee:
- A. All components, parts, and assemblies shall be guaranteed against defects in material and workmanship for a period of one year after acceptance. Expressed warranties are conditionally based on the requirement that the items covered within the guarantee are used and maintained in accordance with the manufacturer's recommendations. Guarantee commences at time of acceptance and

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continues for one year. Acceptance shall not occur until the Owner's operators are able to use the EMCS/DDC and receive reliable information from inputs and outputs.

**PART 3 - EXECUTION**

- 3.1 Examine areas and conditions under which EMCS/DDC work is to be installed. Do not proceed with work until unsatisfactory conditions have been corrected in manner acceptable to Installer.
- 3.2 Installation of EMCS/DDC:
- A. General: Install systems and materials in accordance with manufacturer's instructions, shop drawings, and details on drawings. Install electrical components and use electrical products complying with requirements of applicable Division 26 sections of these specifications. Mount panels at convenient locations and heights.
  - B. Control Wiring: The term "control wiring" is defined to include wire, conduit and miscellaneous materials as required for mounting and connecting electric control devices. All low voltage control wiring, except wiring located above accessible ceilings, shall be installed in conduit. Low voltage control wiring above accessible ceilings may be installed without conduit, provided it is run at right angles to the building structure and is tie-wrapped and supported per Division 26 and code requirements.
  - C. Wiring System: Install complete control wiring system for the EMCS/DDC. Conceal wiring, except in mechanical rooms and areas where other conduit and piping are exposed. Provide multi-conductor instrument harness (bundle) in place of single conductors where number of conductors can be run along common path. Fasten flexible conductors bridging cabinets and doors, neatly along hinge side, and protect against abrasion. Tie and support conductors neatly.
  - D. Install control wiring in accordance with the National Electric Code and Division 26 requirements.
  - E. Identification: Number-code or color-code conductors, excluding those used for local individual room controls, appropriately for future identification and servicing of control system. Tag all sensor wiring to identify zone number and room number where sensor is located.
  - F. Labeling: Label all sensors, valves, safety devices, and controllers with engraved tags matching the shop drawings.
- 3.3 Programming of EMCS/DDC:
- A. The EMCS/DDC shall perform all functions on the equipment as described in HVAC sequence of operation and input/output schedules specified on the drawings. This defines the scope and extent of the project with regard to the required number of panels, control point relays, and devices. Field verify voltages at point-of-interface and provide relays as required.
- 3.4 Functional Requirements of EMCS/DDC:
- A. Provide all necessary relays, sensors, wiring and contacts to achieve proper operation.
  - B. Connect EMCS/DDC panels to remote panels where shown.
- 3.5 Startup: Startup, test, and adjust the EMCS/DDC systems in presence of manufacturer's authorized

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representative. Demonstrate compliance with requirements. Replace damaged or malfunctioning controls and equipment.

3.6 Adjusting and Cleaning:

- A. Cleaning: Clean factory-finished surfaces. Repair any marred or scratched surfaces with manufacturer's touch-up paint.
- B. Final Adjustment: After completion of installation, adjust the program, relays, interface devices, and similar equipment provided as work of this section for optimum operation.

3.7 System Verification: The manufacturer's authorized representative shall state in writing to the Engineer that the EMCS/DDC system is operating properly, final adjustments and calibrations are complete.

**END OF SECTION**

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SECTION 231123 – GAS SYSTEM

PART 1 - GENERAL

1.1 Related Documents:

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification sections, apply to this section.
- B. Division 23 Common Work Results for HVAC sections apply to work of this section.
- C. Extent of gas systems work is indicated on drawings and schedules, and by requirements of this section.
- D. Refer to other Division 23 sections for excavation and backfill required in conjunction with gas piping.

1.2 Codes and Standards:

- A. NFPA Compliance: Fabricate and install gas systems in accordance with NFPA 54 "National Fuel Gas Code".
- B. Utility Compliance: Fabricate and install gas systems in accordance with local gas utility company requirements and standards.

1.3 Approval Submittals:

- A. Product Data: Submit manufacturer's technical product data and installation instructions for:
  - 1. Gas cocks and/or ball valves.
  - 2. Master gas control valve.
  - 3. Laboratory gas cocks.
  - 4. Gas vents.
  - 5. Gas regulators.
  - 6. Kitchen gas appliance connectors.
  - 7. Gas appliance connectors.
  - 8. Access doors.

- 1.4 O&M Data Submittals: Submit a copy of all approval submittals. Submit maintenance data and parts list for gas cocks, ball valves, control valves, lab gas cocks, appliance connectors, gas vents, regulators. Include in O&M Manual.

PART 2 - PRODUCTS

- 2.1 General: Provide piping materials and factory-fabricated piping products of sizes, types,

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pressure ratings, and capacities as indicated. Where not indicated, provide proper selection as determined by Installer to comply with installation requirements. Provide materials and products complying with NFPA 54 where applicable. Base pressure rating on gas piping system maximum design pressures. Provide sizes and types matching piping and equipment connections; provide fittings of materials which match pipe materials used in gas systems. Where more than one type of materials or products is indicated, selection is Installer's option.

- 2.2 Basic Identification: Provide identification complying with Division 23 Common Work Results for HVAC section "HVAC Identification."
- 2.3 Basic Pipes and Pipe Fittings: Provide pipes and pipe fittings in accordance with the following listing:
- A. Gas Service Piping:
1. All Pipe Sizes: Schedule 40 black steel pipe with wrought-steel butt welding fittings.
  2. Wrapping: Machine wrap pipe using 50% overlap wrap, with polyvinyl chloride tape. Hand wrap fittings using 100% overlap wrap extending 6" beyond fitting onto wrapped pipe. Comply with tape manufacturer's installation instructions.
  3. Pipe Sizes 1/2" Through 12": Thermoplastic gas pressure pipe, tubing, and fittings complying with ASTM D 2513.
  4. Pipe Sizes 2" Through 12": Reinforced epoxy resin gas pressure pipe and fittings complying with ASTM D 2517.
- B. Building Distribution Piping:
1. Pipe Size 2" and Smaller: Schedule 40 black steel pipe with malleable-iron threaded fittings.
  2. Pipe Sizes 2" and Smaller: Gas piping within each laboratory shall be Type L hard drawn copper with silver solder brazed joints.
  3. Pipe Size 2½" and Larger: Schedule 40 black steel pipe with wrought-steel butt welding fittings.
- 2.4 Sleeves and Sleeve Seals: Provide sleeves and sleeve seals complying with Division 23 Common Work Results for HVAC section "Sleeves and Sleeve Seals".
- 2.5 Sealants: Provide UL-listed or AGA approved sealants for gas piping.
- 2.6 Basic Hangers and Supports: Provide supports and anchors complying with Division 23 Common Work Results for HVAC section "Hangers and Supports".



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- 2.7 Valves: Provide valves complying with Division 23 Common Work Results for HVAC section "Valves" and the following listing:
- A. Gas Cocks 2" and Smaller: UL-listed, AGA approved, 150 psi non-shock WOG, full port, bronze straightway cock, flat or square head, threaded ends.
  - B. Gas Cocks 2-1/2" and Larger: UL-listed, CGA approved, MSS SP-78; 175 psi, lubricated plug type, full port, semi-steel body, single gland, wrench operated, flanged ends.
  - C. Acceptable Manufacturers for Gas Cocks: Subject to compliance with requirements, provide products of Resun R1430 and R1431, Milliken 200M and 201M, or approved equal.
  - D. Laboratory Master Shutoff Valves: Type BA-3.
  - E. Master Gas Control Valve: Bronze or aluminum body, packless, single seat, suitable for fuel gas, solenoid operated, normally open, UL-approved, manual reset, 24 volt DC. The valve shall close when de-energized by the FACP. Acceptable Manufacturer: Subject to compliance with requirements, provide products of one of the following: Automatic Switch Co., Bulletin 8044, or approved equal.
  - F. Laboratory gas cocks are specified in Division 22 section "Plumbing Fixtures".
  - G. Laboratory gas cocks are furnished by the laboratory equipment supplier.
- 2.8 Kitchen Gas Appliance Connectors: Provide kitchen gas appliance connectors of annealed 304 stainless steel tubing with Type 304 stainless steel braiding to protect tubing from elongation and a PVC coating surrounding steel braiding with suitable ends for appliance connection. Provide NSF & (AGA or CGA) approvals. Where kitchen equipment gas appliance connectors serve movable appliance (on castors), provide swivel fittings and quick connects that close upon disconnecting. Hose length for movable appliances shall be 1.25 times the depth of the appliance. Appliance restraining device shall prevent over extension of connecting tube.
- 2.9 Gas Appliance Tube Connectors: Provide commercial grade appliance connectors with a 2 year manufacturer's warranty. Tubing shall be Type 304 stainless steel tubing with type 304 stainless steel braiding to protect tubing from elongation. Tubing shall be complete with factory installed end connectors. Provide products that are AGA or CGA approved. Indicate maximum BTU input for each length and size used on submittal.
- 2.10 Gas Vents:
- A. Single Wall Construction: Provide UL-1738 single wall, factory-built vent system designed for use with Category II or IV condensing gas-fired appliances. The vent system shall be constructed from flame-resistant polypropylene and be continuous from the equipment flue outlet to the vent termination located outside. All vent system components (vent supports, roof or wall penetrations, terminations, equipment connectors, drain fittings) required to install the vent system shall be UL listed and provide by the manufacturer. Vent layout shall be designed and installed in compliance with the manufacturer's installation instructions. Acceptable Manufacturer: Subject to compliance with requirements, provide single wall vent system by

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Centrotherm, or approved equal.

- B. Double Wall Construction: Provide Type B double wall gas vent system for gas-fired appliances, except where noted otherwise on the drawings. Metalbestos Style RV(3"-8") or QC(10"-24"). The system shall include pipe, top, flashing cone, storm collar, joist shield, support plates, firestops, and fittings as required by the manufacturer for a complete installation. Acceptable Manufacturer: Subject to compliance with requirements, provide products of one of the following: Metalbestos, Hart and Cooley, or approved equal.

2.11 Gas Regulators:

- A. First Stage Regulators: Provide UL listed first stage (high pressure) regulators set for 15 psi.
- B. Second Stage Regulators: Provide UL listed second stage (1-5 psi) adjustable regulators with integral relief valves.
- C. Acceptable Manufacturers: Subject to compliance with requirements, provide regulators by Rego, or approved equal.

2.12 Gas Meter and Regulator: Provided by local utility company.

2.13 Access Doors: Provide access doors to service all valves and other devices as required in accordance with Division 23 Common Work Results for HVAC section "Access Doors".

PART 3 - EXECUTION

3.1 General: Examine areas and conditions under which gas systems materials and products are to be installed. Do not proceed with work until unsatisfactory conditions have been corrected in manner acceptable to Installer. Coordinate with gas supplier prior to starting work.

3.2 Install HVAC identification in accordance with Division 23 Common Work Results for HVAC section "HVAC Identification".

3.3 Installation of Gas Piping:

- A. General: Install pipes and pipe fittings in accordance with recognized industry practices which will achieve permanently-leakproof piping systems, capable of performing each indicated service without piping failure. Install each run with minimum joints and couplings, but with adequate and accessible unions for disassembly and maintenance or replacement of valves and equipment.
- B. Comply with ANSI B31 Code for Pressure Piping.

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- C. Locate piping runs, except as otherwise indicated, vertically and horizontally and avoid diagonal runs wherever possible. Orient horizontal runs parallel with walls and column lines. Locate runs as shown or described by diagrams, details and notations or, if not otherwise indicated, run piping in shortest route which does not obstruct usable space or block access for servicing building and its equipment. Hold piping close to walls, overhead construction, columns and other structural and permanent-enclosure elements of building; limit clearance to 1/2" where furring is shown for enclosure or concealment of piping.
- D. Concealed Piping: Unless specifically noted as "Exposed" on the drawings, conceal piping from view in finished and occupied spaces, by locating in column enclosures, chases, in hollow wall construction or above suspended ceilings; do not encase horizontal runs in solid partitions, except as indicated.
- E. Electrical Equipment Spaces: Do not run piping through transformer vaults and other electrical, communications, or data equipment spaces and enclosures unless shown.
- F. Cut pipe from measurements taken at the site, not from drawings. Keep pipes free of contact with building construction and installed work.
- G. Connect branch-feed piping to mains at horizontal center line of mains, connect run-out piping to branches at horizontal center line of branches.
- H. Locate groups of pipes parallel to each other, spaced to permit servicing of valves.
- I. Isolate all copper tubing from steel and concrete by wrapping the pipe at the contact point, and for one inch on each side, with a continuous plastic sleeve. Isolate all copper tubing installed in block walls with a continuous plastic sleeve.
- J. Use sealants on metal gas piping threads which are chemically resistant to gas. Use sealants sparingly, and apply to only male threads of metal joints.
- K. Remove cutting and threading burrs before assembling piping.
- L. Do not install defective piping or fittings. Do not use pipe with threads which are chipped, stripped or damaged. Do not use bushings in the gas system.
- M. Plug each gas outlet, including valves, with threaded plug or cap immediately after installation and retain until continuing piping, or equipment connections are completed.
- N. Ground gas piping electrically and continuously within project, and bond tightly to grounding connection.
- O. Install drip-legs in gas piping where indicated, and where required by code or gas company requirements.
- P. Install "Tee" fitting with bottom outlet plugged or capped, at bottom of pipe risers.

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- Q. Use dielectric unions where dissimilar metals are joined together.
  - R. Install piping with 1/64" per foot (1/8%) downward slope in direction of flow.
  - S. Install piping parallel to other piping, but maintain minimum of 12" clearance between gas piping and steam or hydronic piping above 200°F.
  - T. For piping underground beneath buildings, install in welded conduit. Extend conduit inside and terminate in accessible portion of building and seal. Extend conduit outside minimum of 4" from building, and vent above grade.
- 3.4 Gas Service: Arrange with utility company to provide gas service to indicated location with meter, pressure regulator and shutoff at terminus. Consult with utility as to extent of its work, costs, fees, and permits involved. The Owner // Contractor shall pay such costs and fees and obtain permits.
- 3.5 Installation of Piping System Joints: Provide joints of the type indicated in each piping system.
- A. Solder copper tube-and-fitting joints where indicated, in accordance with recognized industry practice. Cut tube ends squarely, ream to full inside diameter, and clean outside of tube ends and inside of fittings. Apply non-acid type solder flux to joint areas of both tubes and fittings. Insert tube full depth into fitting, and solder in manner which will draw solder full depth and circumference of joint. Wipe excess solder from joint before it hardens.
  - B. Thread pipe in accordance with ANSI B2.1; cut threads full and clean using sharp dies. Ream threaded ends to remove burrs and restore full inside diameter. Apply pipe joint compound, or pipe joint tape where recommended by pipe/fitting manufacturer, on male threads at each joint and tighten joint to leave not more than 3 threads exposed. Paint exposed threads to retard rusting.
  - C. Weld pipe joints in accordance with recognized industry practice and as follows. Be guided by ANSI B.31.
    - 1. Weld pipe joints only when ambient temperature is above 0°F.
    - 2. Bevel pipe ends at a 37.5° angle where possible, smooth rough cuts, and clean to remove slag, metal particles and dirt.
    - 3. Use pipe clamps or tack-weld joints; 4 welds for pipe sizes to 10". All welds shall be open-butt.
    - 4. Build up welds with root pass, followed by filler pass and then a cover pass. Eliminate valleys at center and edges of each weld. Weld by procedures which will ensure elimination of unsound or unfused metal, cracks, oxidation, blow-holes and non-metallic inclusions.

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5. Do not weld-out piping system imperfections by tack-welding procedures; refabricate to comply with requirements.
  6. At Installer's option, install forged branch-connection fittings wherever branch pipe is less than 3" and at least two pipe sizes smaller than main pipe indicated; or install regular "T" fitting. Weld-O-Let or equal.
  7. All field welding and cutting using oxygen-acetylene methods within the building shall be performed in accordance with NFPA-51B (2014).
  8. Limit the use of welded piping to shop-fabricated only. Neither welding nor cutting with oxygen-acetylene methods will be permitted within the envelope of the hospital building.
- 3.6 Install sleeves and sleeve seals in accordance with Division 23 Common Work Results for HVAC section "Sleeves and Sleeve Seals".
- 3.7 Install hangers and supports in accordance with Division 23 Common Work Results for HVAC section "Hangers and Supports".
- 3.8 Installation of Valves:
- A. Gas Cocks: Provide at connection to gas train for each gas-fired equipment item; and on risers and branches where indicated.
  - B. Locate gas cocks where easily accessible, and where they will be protected from possible injury.
  - C. Control Valves: Install as indicated. Refer to Division 26 for wiring (not work of this section).
- 3.9 Equipment Connections: Connect gas piping to each gas-fired equipment item, with drip leg and shutoff gas cock. Comply with equipment manufacturer's instructions.
- 3.10 Appliance Connectors: Install tubing, valves, connectors, fittings in accordance with their listing. Hose, fittings, and valves shall not restrict gas flow and shall be rated for the capacity of the appliance they serve. Hoses shall not be crimped. Hoses behind movable appliances shall not be crimped when appliance is extended from wall or when appliance is set in working position. Appliance restraining device shall set to engage just prior to the connector being fully extended. Check all tubing, piping, fittings & valves for leakage at less than 50 parts per million.
- 3.11 Access Doors: Locate and coordinate installation of access doors for all valves and devices in accordance with Division 23 Common Work Results for HVAC section "Access Doors".
- 3.12 Gas Vent Installation:
- A. Install gas vents for all draft gas-fired appliances in accordance with NFPA 54 and the manufacturer's instructions. Provide all flashing and related materials.

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- B. Slope horizontal gas vent connectors upward at least 1/4" per foot.
- 3.13 Piping Tests: Inspect, test, and purge gas systems in accordance with NFPA 54, local utility requirements, and Division 23 Common Work Results for HVAC section "Testing, Cleaning, and Sterilization for HVAC Piping".

END OF SECTION

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**SECTION 232113 – HYDRONIC PIPING**

**PART 1 - GENERAL**

1.1 Related Documents:

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification sections, apply to this section.
- B. Division 23 Common Work Results for HVAC sections apply to work of this section.
- C. Refer to other Division 23 sections for insulation of hydronic piping (not work of this section).
- D. Refer to other Division 23 sections for hydronic specialties (not work of this section).
- E. Refer to other Division 23 sections for HVAC chillers (not work of this section).
- F. Refer to other Division 23 sections for testing, adjusting, and balancing of hydronic piping (not work of this section).

1.2 Codes and Standards:

- A. Fabricate and install hydronic piping in accordance with ASME B31.9 “Building Services Piping”.
- B. Welding: Qualify welding procedures, welders and operators in accordance with ASME B31.1, or ASME B31.9, as applicable, for shop and project site welding of piping work.

1.3 Approval Submittals:

- A. Product Data: Submit manufacturer’s product data for:
  - 1. Valves.
  - 2. Meters and Gauges.
  - 3. Vibration Isolation.

1.4 Test Reports and Verification Submittals:

- A. Submit welder’s certificates.

1.5 O&M Data Submittals: Submit a copy of all approval submittals. Include in O&M Manual.

**PART 2 - PRODUCTS**

- 2.1 General: Provide piping materials and factory-fabricated piping products of sizes, types, pressure ratings, temperature ratings, and capacities as indicated. Where not indicated, provide proper selection as determined by Installer to comply with installation requirements. Provide materials and products complying with ASME B31.9 Code for Building Services Piping where applicable, base pressure rating on hydronic piping systems maximum design pressures. Provide sizes and types

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matching piping and equipment connections. Provide fittings of materials which match pipe materials used in hydronic piping systems. Where more than one type of materials or products is indicated, selection is Installer's option.

- 2.2 Basic Identification: Provide identification complying with Division 23 Common Work Results for HVAC section "HVAC Identification."
  
- 2.3 Basic Pipes and Pipe Fittings: Provide pipes and pipe fittings in accordance with the following listing:
  - A. Pipe Size 2" and Smaller: ASTM A53 or A120; black steel, Schedule 40, seamless pipe.
    - 1. Fittings: ANSI B16.4; Class 125 cast-iron fittings with threaded joints.
  - B. Pipe Size 2½" and Larger: ASTM A53 or A120; black steel, Schedule 40, seamless pipe.
    - 1. Fittings: ANSI B16.9; wrought-steel buttwelding fittings with welded joints.
  
- 2.4 Basic Piping Specialties: Provide piping specialties complying with Division 23 Common Work Results for HVAC section "Hydronic Piping Specialties".
  
- 2.5 Basic Hangers and Supports: Provide supports and anchors complying with Division 23 Common Work Results for HVAC section "Hangers and Supports".
  
- 2.6 Basic Valves: Provide valves complying with Division 23 Common Work Results for HVAC section "Valves" and the following list:
  - A. Standard Service Shutoff Valves: Type BA1, BF2, BF4.
  - B. Standard Service Drain Valves: Type BA1.
  
- 2.7 Basic Meters and Gauges: Provide meters and gauges complying with Division 23 Common Work Results for HVAC section "Meters and Gauges", in accordance with the following listing:
  - A. Temperature gauges and fittings.
  - B. Pressure gauges and fittings.
  
- 2.8 Basic Vibration Control: Provide vibration control products complying with Division 23 Common Work Results for HVAC section "Vibration Isolation" and the following list:
  - A. Chiller Connections: Type PF2.

**PART 3 - EXECUTION**

- 3.1 General: Examine areas and conditions under which hydronic piping systems materials and products are to be installed. Do not proceed with work until unsatisfactory conditions have been corrected in manner acceptable to Installer. Connections between dissimilar metals shall be made with dielectric



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devices.

3.2 Installation of Hydronic Piping:

- A. General: Install pipes and pipe fittings in accordance with recognized industry practices which will achieve permanently-leakproof piping systems, capable of performing each indicated service without piping failure. Install each run with minimum joints and couplings, but with adequate and accessible unions for disassembly and maintenance or replacement of valves and equipment.
- B. Comply with ANSI B31 Code for Pressure Piping.
- C. Locate piping runs, except as otherwise indicated, vertically and horizontally (pitched to drain) and avoid diagonal runs wherever possible. Locate runs as shown or described by diagrams, details and notations or, if not otherwise indicated, run piping in shortest route which does not obstruct usable space or block access for servicing building and its equipment.
- D. Cut pipe from measurements taken at the site, not from drawings. Keep pipes free of contact with building construction and installed work.
- E. Locate groups of pipes parallel to each other, spaced to permit applying full insulation and servicing of valves.
- F. Install piping to allow for expansion and contraction.

3.3 Installation of Piping System Joints: Provide joints of the type indicated in each piping system.

- A. Thread pipe in accordance with ANSI B2.1; cut threads full and clean using sharp dies. Ream threaded ends to remove burrs and restore full inside diameter. Apply pipe joint compound, or pipe joint tape (Teflon) where recommended by pipe/fitting manufacturer, on male threads at each joint and tighten joint to leave not more than 3 threads exposed. Paint exposed threads to retard rusting.
- B. Weld pipe joints in accordance with recognized industry practice and as follows. Be guided by ANSI B.31.
  - 1. Weld pipe joints only when ambient temperature is above 0°F.
  - 2. Bevel pipe ends at a 37.5° angle where possible, smooth rough cuts, and clean to remove slag, metal particles and dirt.
  - 3. Use pipe clamps or tack-weld joints; 4 welds for pipe sizes to 10". All welds shall be open-butt.
  - 4. Build up welds with root pass, followed by filler pass and then a cover pass. Eliminate valleys at center and edges of each weld. Weld by procedures which will ensure elimination of unsound or unfused metal, cracks, oxidation, blow-holes and non-metallic inclusions.
  - 5. Do not weld-out piping system imperfections by tack-welding procedures; refabricate to comply with requirements.
  - 6. At Installer's option, install forged branch-connection fittings wherever branch pipe is less than 3" and at least two pipe sizes smaller than main pipe indicated; or install regular "T" fitting, Weld-O-Let or equal.

3.4 Install piping specialties in accordance with Division 23 Common Work Results for HVAC section "Hydronic Piping Specialties".

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- 3.5 Install hangers and supports in accordance with Division 23 Common Work Results for HVAC section "Hangers and Supports".
- 3.6 Install valves in accordance with Division 23 Common Work Results for HVAC section "Valves".
- A. Shutoff Valves: Install on inlet and outlet of each mechanical equipment item, and elsewhere as indicated.
- B. Drain Valves: Install on each mechanical equipment item located to completely drain equipment for service or repair.
- 3.7 Install meters and gauges in accordance with Division 23 Common Work Results for HVAC section "Meters and Gauges".
- 3.8 Equipment Connections:
- A. General: Connect hydronic piping system to mechanical equipment as indicated on the drawings, and comply with equipment manufacturer's instructions where not otherwise indicated. Install shutoff valve and union on supply and return and a drain valve on the drain connection. Connections between dissimilar metals shall be made with dielectric devices.
- 3.9 Testing, Cleaning, Flushing, and Inspecting: Test, clean, flush, and inspect hydronic piping systems in accordance with requirements of Division 23 Common Work Results for HVAC section "Testing, Cleaning, and Sterilization for HVAC Piping".
- 3.10 Chilled Water Chemical Treatment: Refill hydronic piping systems, adding a nitriteborate, MBT based treatment for corrosion protection. Add to establish the levels recommended by the water treatment company (Triple Point Industries, contact John Thornton 251-243-5151), but no less than 500 ppm nitrite and a minimum pH of 8.5. Repeat measurements daily with system under full circulation and apply chemicals to adjust levels until no change is apparent.

**END OF SECTION**

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**SECTION 232116 – HYDRONIC PIPING SPECIALTIES**

**PART 1 - GENERAL**

- 1.1 Related Documents:
- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification sections, apply to this section.
  - B. Division 23 Common Work Results for HVAC sections apply to work of this section.
  - C. Refer to other Division 23 sections for insulation of hydronic piping specialties (not work of this section).
- 1.2 Codes and Standards:
- A. ASME Compliance: Manufacture and install hydronic specialties in accordance with ASME B31.9 "Building Services Piping".
- 1.3 Approval Submittals: Submit manufacturer's technical product data and installation instructions for each type of hydronic specialty. Include pressure drop curve or chart for each type and size of hydronic specialty. Submit schedule indicating manufacturer's figure number, size, location, rated capacities, and features for each required hydronic specialty.
- A. Dielectric Unions
  - B. Y-Type Strainers
  - C. Vent Valves
- 1.4 O&M Data Submittals: Submit a copy of approval submittals. Include in O&M Manual.

**PART 2 - PRODUCTS**

- 2.1 General: Provide factory-fabricated hydronic specialties recommended by manufacturer for use in service indicated. Provide hydronic specialties of types and pressure ratings indicated for each service, or if not indicated, provide proper selection as determined by Installer to comply with installation requirements. Provide sizes as indicated, and connections, which properly mate with pipe, tube, and equipment connections. Where more than one type is indicated, selection is installer's option but more than one type cannot be used on project.
- 2.2 Dielectric Unions: Provide standard products recommended by manufacturer for use in service indicated, which effectively isolate ferrous from non-ferrous piping (electrical conductance), prevent galvanic action, and stop corrosion.

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- 2.3 Low Pressure Y-Type Pipeline Strainers:
- A. General: Provide strainers full line size of connecting piping, with ends matching piping system materials. Provide Type 304 stainless steel screens. Select for 200 psi working pressure (water, oil or gas). Provide 20 mesh screens through 2" size and 1/16" perforations for 2-1/2" size and larger.
  - B. Select from the following types:
    - 1. Flanged Ends, 2-1/2" and Larger: Cast-iron body, bolted screen retainer with off-center blowdown fitted with pipe plug.
- 2.4 Vent Valves:
- A. Manual Vent Valves: Provide manual vent valves designed to be operated manually with screwdriver or thumbscrew, 1/8" NPT connection.
  - B. Automatic Vent Valves: Provide automatic vent valves designed to vent automatically with float principle, stamped brass body, pressure rated for 150 psi, 1/2" NPS inlet connection. Bell & Gossett No. 87. Use for all distribution piping.
  - C. Acceptable Manufacturers: Subject to compliance with requirements, provide vent valves by Crane, Bell & Gossett, Hoffman, Sarco, or Wheatley.

**PART 3 - EXECUTION**

- 3.1 General: Examine areas and conditions under which hydronic specialties are to be installed. Do not proceed with work until satisfactory conditions have been corrected in manner acceptable to Installer.
- 3.2 Dielectric Unions: Install at each piping joint between ferrous and non-ferrous piping. Comply with manufacturer's installation instructions.
- 3.3 Y-Type Strainers: Install Y-type strainers full size of pipeline, in accordance with manufacturer's installation instructions. Install pipe nipple and shutoff valve in strainer blowdown connection, full size of connection. Where indicated, provide drain line from shutoff valve to plumbing drain, full size of blowdown connection.
- A. Locate Y-type strainers in supply line ahead of the following equipment, and elsewhere as indicated, if integral strainer is not included in equipment: chillers.
- 3.4 Vent Valves:
- A. Manual Vent Valves: Install manual vent valves on each hydronic terminal at highest point, and on each hydronic piping drop in direction of flow for mains, branches, and run-outs, and elsewhere as indicated.
  - B. Automatic Vent Valves: Install automatic vent valves at top of each hydronic riser and elsewhere as indicated. Install shut-off valve between riser and vent valve, pipe outlet to suitable plumbing drain, or as indicated.

**END OF SECTION**

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SECTION 235200 – HEATING WATER BOILERS

PART 1 - GENERAL

1.1 Related Documents:

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification sections, apply to this section.
- B. Division 23 Common Work Results for HVAC sections apply to work of this section.
- C. Extent of boiler work is indicated by drawings and schedules, and requirements of this section.
- D. Refer to other Division 23 sections for piping, hydronic specialties, pumps, and temperature controls which are required external to boilers (not work of this section).
- E. Refer to other Division 23 sections for testing, adjusting, and balancing of boilers (not work of this section).
- F. Refer to Division 26 sections for power supply wiring from power source to power connection on boilers. Include starters, disconnects, wiring, raceways, and required electrical devices, except where specified as furnished, or factory-installed, by manufacturer.

1.2 Electrical Work: Provide the following as work of this section, in accordance with requirements of Division 26:

- A. Furnish to Electrical Installer burner emergency shutoff switches.
- B. Provide factory-mounted and wired controls and electrical devices as specified in this section.
- C. Provide control wiring between boiler control panel and thermostats, aquastats, and any other control device.

1.3 Codes and Standards:

- A. AGA Compliance: Boilers shall be design certified by the American Gas Association.
- B. NFPA Compliance: Install gas-fired boilers in accordance with NFPA Code 54 "National Fuel Gas Code".
- C. Boilers shall bear the ASME stamp and be approved by the National Board for 160 psig working pressure.
- D. UL and NEMA Compliance: Provide boiler ancillary electrical components which have been listed and labeled by UL, and comply with NEMA standards.

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1.4 Approval Submittals:

- A. Product Data: Submit manufacturer's technical product data, including rated capacities of selected model clearly indicated, weights (shipping, installed, and operating), furnished specialties and accessories; and installation and startup instructions.
- B. Assembly Drawings: Submit manufacturer's assembly-type drawings indicating dimensions, weight loadings, required clearances, and methods of assembly of components.

1.5 Test Report and Verification Submittals:

- A. Startup Report: Submit startup report by factory-trained representative.
- B. Training: Submit letter verifying that Owner training has been received by factory representative.

1.6 O&M Data Submittals:

- A. Wiring Diagrams: Submit manufacturer's electrical requirements for power supply wiring to boilers. Submit manufacturer's ladder-type wiring diagrams for interlock and control wiring required for final installation of boilers and controls. Clearly differentiate between portions of wiring that are factory-installed and portions to be field-installed.
- B. Maintenance Data: Submit a copy of approval submittal. Submit maintenance data and parts list for boilers, controls, and accessories; include "troubleshooting" maintenance guide. Include data in O&M manual.

**PART 2 - PRODUCTS**

2.1 Acceptable Manufacturers: Subject to compliance with requirements, provide boilers by: Aerco, Laars, Lochinvar, Raypak, Thermal Solutions, or approved equal.

2.2 Finned-Tube Water Boilers:

- A. General: Provide as indicated, factory-assembled and tested gas-fired finned copper-tube boilers, of capacity as scheduled. Provide design certified by AGA and constructed in accordance with requirements of the ASME Boiler and Pressure Vessel Code.
- B. Boilers: Construct of a single bank of integral finned copper tubes with the ends rolled into a steel tube sheet sealed to 160 psig. Provide 20-year warranty against thermal shock. Boilers shall operate down to 105°F without condensation.
- C. Equipment: Provide insulated jacket suitable for outdoor installation, louvers horizontal to vertical draft hoods, factory-assembled base and burners, prepiped gas control assemblies, stainless steel burners, manual main shutoff gas valves, pilot shutoff valves, high pressure gas switches, 40 VA transformer and electrical junction box.
- D. Provide intermittent electronic ignition system consisting of electronic control, electronic

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supervised pilot, combination automatic gas valves and pressure regulators, redundant gas valves, pilot filters, and 100% shutoff.

- E. Provide high-limit control, operating control, combination pressure-temperature-altitude gage, and ASME relief valve.
- F. Gas Vents: Provide Type B double wall gas vent system for gas-fired appliances, except where noted otherwise on the drawings. Metalbestos Style RV(3"-8") or QC(10"-24"). The system shall include pipe, top, flashing cone, storm collar, joist shield, support plates, firestops, and fittings as required by the manufacturer for a complete installation. Acceptable Producers: Metalbestos, Hart and Cooley, or approved equal.
- G. Accessories: In addition to above, provide the following accessories:
  - 1. Pump control relay
  - 2. Electronic flame safeguard control system with panel
  - 3. Flow switch
  - 4. Full modulation firing. (turndown to 20% of firing rate)

**PART 3 - EXECUTION**

- 3.1 Examine areas and conditions under which boilers are to be installed, and substrate which will support boilers. Do not proceed with work until unsatisfactory conditions have been corrected in manner acceptable to Installer.
- 3.2 General: Install boilers in accordance with manufacturer's installation instructions, in accordance with State and local code requirements, and in accordance with requirements of local Utility Company. Install units plumb and level. Maintain manufacturer's recommended clearances around and over boilers.
- 3.3 Registration and Acceptance: Contractor shall register boiler installation with the State Boiler Inspector and schedule all required inspections.
- 3.4 Support: Install boilers on 6" thick reinforced concrete housekeeping pad that is 6" larger on each side than the base of the unit. Provide chamfered edges.
- 3.5 Electrical Work: Install electrical devices furnished by manufacturer but not specified to be factory-mounted. Furnish copy of manufacturer's wiring diagram submittal to Electrical Installer. Verify that electrical work installation is in accordance with manufacturer's submittal and installation requirements of Division 26 sections. Do not proceed with equipment start-up until electrical work is acceptable to equipment Installer.
- 3.6 Gas Piping: Refer to Division 23 section "Gas System". Connect gas piping to boiler, full size of boiler gas train inlet. Provide union with sufficient clearance for burner removal and service. Coordinate selection of gas regulator and install per manufacturer's requirements.

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- 3.7 Hot Water Piping: Refer to Division 23 section “Hydronic Piping”. Connect supply and return piping to boiler as indicated, with shutoff valve and union or flange at each connection. Eliminate strain on boiler connections.
  
- 3.8 Flush and clean boilers upon completion of installation in accordance with manufacturer's startup instructions. Remove all foreign materials from the exterior of the boiler and touch up damaged factory finish.
  
- 3.9 Hydrostatically test assembled boiler and piping in accordance with applicable sections of ASME Boiler and Pressure Vessel Code. Test to boiler pressure limits, not piping system pressure limits.
  
- 3.10 Startup boilers, in accordance with manufacturer's startup instructions, and in presence of boiler manufacturer's representative. Test controls and demonstrate compliance with requirements. Adjust burner for maximum burning efficiency. Replace damaged or malfunctioning controls and equipment.
  
- 3.11 Owner's Instructions: Provide services of manufacturer's technical representative for one 4-hour day to instruct Owner's personnel in operation and maintenance of boilers. Schedule training with Owner. Provide at least 7-day notice to Contractor and Engineer of training date.
  
- 3.12 Report: Submit signed report that installation is in accordance with factory recommendations and all adjustments and training have been accomplished.

END OF SECTION



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SECTION 236423 – AIR-COOLED SCROLL WATER CHILLERS

PART 1 - GENERAL

1.1 Related Documents:

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification sections, apply to this section.
- B. Division 23 Common Work Results for HVAC sections apply to work of this section.
- C. Extent of chiller work is indicated by drawings and schedules, and requirements of this section.
- D. Refer to other Division 23 sections for piping, hydronic specialties, pumps, meters and gauges, and temperature controls which are required external to chillers (not work of this section).
- E. Refer to other Division 23 sections for testing, adjusting, and balancing of chillers (not work of this section).
- F. Refer to Division 26 sections for power supply wiring from power source to power connection on chillers. Include starters, disconnects, wiring, raceways, and required electrical devices, except where specified as furnished, or factory-installed, by manufacturer.

1.2 Codes and Standards:

- A. AHRI Compliance: Test and rate chillers in accordance with AHRI Standard 550/590.
- B. NEC Compliance: Comply with applicable NEC requirements pertaining to electrical power and control wiring for construction and installation of chillers.
- C. ANSI Compliance: Comply with ANSI B9.1 safety code requirements pertaining to unit construction of chillers. Stamp cooler with ASME mark when cooler has been successfully tested in accordance with ASME Code. Pressure test cooler for refrigerant working side pressure of not less than 235 psig and water side pressure of not less than 150 psig. Leak test condenser coils at 150 psig and pressure test coils at 450 psig

1.3 Approval Submittals:

- A. Product Data: Submit manufacturer's technical product data, including rated capacities for chillers indicated, weights (shipping, installed, and operating), furnished specialties and accessories. Submit rigging, installation, and startup instructions.
- B. Shop Drawings: Submit manufacturer's assembly-type shop drawings indicating dimensions, weight loadings, required clearances, methods of assembly of components, and location and size of each field-connection.

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1.4 Test Report and Verification Submittals:

- A. Startup Report: Submit startup report by factory-trained representative.

1.5 O&M Data Submittals:

- A. Wiring Diagrams: Submit manufacturer's electrical requirements for power supply wiring to chillers. Submit manufacturer's ladder-type wiring diagrams for interlock and control wiring. Clearly differentiate between portions of wiring that are factory-installed and portions to be field-installed.
- B. Maintenance Data: Submit a copy of approval submittal. Submit maintenance data and parts list for chillers, controls, and accessories; include "troubleshooting" maintenance guide. Include data in O&M manual.

**PART 2 - PRODUCTS**

- 2.1 Acceptable Manufacturers: Subject to compliance with requirements, provide chillers by: Carrier, Daikin, Trane, York.

- 2.2 General: Provide factory-assembled and tested packaged air-cooled scroll liquid chillers as indicated, consisting of compressors, evaporator, condensers, and control panels. Provide capacity and electrical characteristics as scheduled.

- A. Specified capacity shall be met without overloading compressor motors when operating at a scale factor of 0.0005 at the temperatures scheduled.
- B. Unit shall be capable of operation at 115°F ambient.
- C. Unit efficiency shall be as scheduled on the drawings. Chiller shall be capable of stable operation to a minimum percentage of full load (without hot gas bypass) of 25%. Performance shall be in accordance with AHRI standard 550/590.
- D. Chiller shall have the ability to support variable flow down to 40% of nominal design based on AHRI conditions.

- 2.3 Refrigerant: Provide full operating charge of refrigerant and oil. CFC and HCFC refrigerants are not allowed.

- 2.4 Housing: Provide manufacturer's standard equipment housing construction, corrosion protection coating, and exterior finish. Provide removable panels and/or access doors for inspection and access to internal parts and components. Provide wire guard to protect compressors and other components.

- 2.5 Evaporator: Provide high-efficiency, dual-circuit, brazed plate type heat exchanger consisting of

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parallel stainless steel plates. Water-side working pressure shall be a minimum of 600 psig. Design, test, and stamp by Underwriters Laboratories (UL). Insulate low temperature surfaces with 3/4" minimum flexible unicellular insulation with maximum K-value of 0.28. Protect insulation with galvanized metal enclosure. Provide water drain connection and bulb wells for temperature controller and low-temperature cutout.

- 2.6 Condenser: Coils shall be microchannel design and have a series of flat tubes containing multiple, parallel flow microchannels layered between the refrigerant manifolds. Tubes shall be 9153 aluminum alloy; tubes made of 3102 alloy or other alloys of lower corrosion resistance will not be accepted. Coils shall consist of a two-pass arrangement. Condenser coils shall include a baked epoxy coating providing minimum 6,000-hr salt spray resistance (ASTM B117-90) applied to both the coil and coil frames.
- A. Condenser Fans: Provide vertical discharge propeller fans, individually direct driven, statically and dynamically balanced. Provide permanently lubricated ball-bearing motors with overload protection. Provide protective grille over air discharge. Provide coating for fan blades to protect against corrosion.
- B. Low Ambient Control: Provide head pressure control, designed to operate at temperatures down to 40°F.
- 2.7 Compressors: Provide sealed hermetic, scroll-type compressors with crankcase oil heater and suction strainer. Compressors shall be refrigerant gas cooled, high torque, hermetic induction type, two-pole, and shall be mounted on vibration isolation pads. Compressors shall be equipped with an internal module providing compressor protection and communication capability.
- A. Provide inherent thermal overload protection for all three phases.
- B. Provide complete 10-year warranty including parts, labor, refrigerant, and drive assembly.
- 2.8 Controls:
- A. Provide weatherproof control panel with field power connection points, control interlock terminals, and control system. Panel shall be designed in accordance with NEMA 3R rating. Power and starting components shall include factory circuit breaker for fan motors and control circuit, individual contactors for each fan motor, solid-state compressor three-phase motor overload protection, inherent fan motor overload protection, and two power blocks (one per circuit) for connection to remote, contractor-supplied disconnect switches. Hinged access doors shall be lockable.
- B. Provide single-point connection to a non-fused disconnect switch with through-the-door handle and compressor circuit breakers.
- C. Provide chilled water flow switch for field installation and wiring to the control panel.
- D. Provide advanced DDC microprocessor unit controller with a visual display that provides the operating and protection functions. The controller shall take preemptive limiting action in case of high discharge pressure or low evaporator pressure, and contain the following features:

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1. Shutdown Alarms
    - a. No evaporator water flow (auto-restart)
    - b. Sensor failures
    - c. Low evaporator pressure
    - d. Evaporator freeze protection
    - e. High condenser pressure
    - f. Outside ambient temperature (auto-restart)
    - g. Motor protection system
    - h. Phase voltage protection
  2. Limit Alarms
    - a. Condenser pressure stage down – unloads unit at high discharge pressures.
    - b. Low ambient lockout – shuts off unit at low ambient temperatures.
    - c. Low evaporator pressure hold – holds stage #1 until pressure rises.
    - d. Low evaporator pressure unload – shuts off one compressor.
  3. Unit Enable: Enables unit operation from either local keypad, digital input, or BAS.
  4. Unit Mode: Selects standard cooling or test operation mode.
  5. Analog Inputs
    - a. Reset of leaving water temperature (4-20 mA)
    - b. Current limit
  6. Digital Inputs
    - a. Unit off switch
    - b. Remote start/stop
    - c. Flow switch
    - d. Motor protection
  7. Digital Outputs
    - a. Shutdown alarm (field-wired)
    - b. Evaporator pump (field-wired)
  8. Condenser Fan Control: Control and modulate condenser fans based on compressor discharge pressure.
  9. Building Automation System (BAS) Interface
    - a. Factory-mounted DDC controller(s) shall support operation on a BACnet®, Modbus®, or LONMARK® network as specified by the successful BAS supplier.
    - b. The information communicated between the BAS and the factory-mounted unit controller(s) shall include the reading and writing of data to allow unit monitoring, control, and alarm notification as specified in the unit sequence of operation and the unit points list.
    - c. All communication from the chiller unit controller as specified in the points list shall be via standard BACnet objects. Proprietary BACnet objects shall not be allowed.
- 2.9 Refrigerant Circuits: Each refrigerant circuit shall include a replaceable-core refrigerant filter-drier, sight glass with moisture indicator, liquid line solenoid valve, expansion valve, and

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insulated suction line.

- 2.10 Noise Rating: Manufacturer shall provide sound attenuation to provide a chiller sound level no greater than 84 dBA when tested in accordance with AHRI Standard 370.

**PART 3 - EXECUTION**

- 3.1 Installer must examine areas and conditions under which chillers are to be installed and notify Contractor in writing of conditions detrimental to proper completion of the work. Do not proceed with the work until unsatisfactory conditions have been corrected in a manner acceptable to Installer.
- 3.2 General: Install chillers in accordance with manufacturer's written instructions. Install units plumb and level, firmly anchored in locations indicated. Maintain manufacturer's recommended clearances.
- 3.3 Support: Install chillers on reinforced concrete pad. Provide chamfered edges. Furnish with anchor bolts which are to be inserted in concrete pad to concrete installer.
- A. Provide templates for anchor bolt placement in concrete pad. Deliver templates to concrete installer so work by others is not delayed.
- 3.4 Chilled Water Piping: Refer to Division 23 section "Hydronic Piping". Connect inlet to evaporator with controller bulb well, shutoff valve, thermometer, strainer, flow switch, flexible pipe connection, pressure gauge, and union or flange. Connect outlet to evaporator with shutoff valve, thermometer, flexible pipe connection, pressure gauge, and union or flange. Align piping to eliminate strain on chiller. Arrange piping to permit removal of chiller with minimal pipe removal. Thermometers and gauges shall be located in the equipment room.
- 3.5 Electrical Work: Install electrical devices furnished by manufacturer but not specified to be factory-mounted. Furnish copy of manufacturer's wiring diagram submittal to Electrical Installer. Verify that electrical work installation is in accordance with manufacturer's submittal and installation requirements of Division 26 sections. Do not proceed with equipment start-up until electrical work is acceptable to equipment installer.
- 3.6 Control: Furnish field-installed automatic temperature control requirements to Control Installer. Field-installed automatic temperature controls are not work of this section.
- 3.7 Provide services of manufacturer's factory-trained service representative to startup chillers. Include in startup procedures: testing controls, checking all wiring connections, demonstration of compliance with requirements, demonstration of performance, and replacement of damaged or malfunctioning controls and equipment. Submit complete operating logs and service report following chiller startup.

**CITY OF MOBILE  
HISTORY MUSEUM OF MOBILE CHILLER REPLACEMENT**

- 3.8 Owner's Instructions: Provide services of manufacturer's technical representative for one 4-hour day to instruct Owner's personnel in operation and maintenance of chillers. Schedule training with Owner. Provide at least 7-day notice to Contractor and Engineer of training date.
- 3.9 The chiller supplier shall employ servicemen qualified to repair the chillers and shall have an office and stock parts within 100 miles of the project. Servicemen shall maintain 24 hour per day emergency service.

END OF SECTION



# COMcheck Software Version COMcheckWeb Mechanical Compliance Certificate

## Project Information

Energy Code: 2021 IECC  
Project Title: History Museum of Mobile 24-097  
Location: Mobile, Alabama  
Climate Zone: 2a  
Project Type: Alteration

Construction Site: 111 S Royal St  
Mobile, Alabama 36602  
Owner/Agent: \_\_\_\_\_  
Designer/Contractor: \_\_\_\_\_

## Mechanical Systems List

### Quantity System Type & Description

- 1 Plant:  
Cooling: Water Chiller, Capacity 100 tons, Condenser Air-Cooled, Rotary Screw or Scroll Chiller  
Proposed Efficiency: 15.43 EER-FL, Required Efficiency: 10.10 EER-FL  
Proposed Part Load Efficiency: 15.93 EER-IPLV, Required Part Load Efficiency: 13.70 EER-IPLV
- 1 Plant:  
Heating: Hot Water Boiler, Capacity 2501 kBtu/h, Gas  
Proposed Efficiency: 85.00 % Ec, Required Efficiency: 82.00 % Ec

## Mechanical Compliance Statement

*Compliance Statement:* The proposed mechanical alteration project represented in this document is consistent with the building plans, specifications, and other calculations submitted with this permit application. The proposed mechanical systems have been designed to meet the 2021 IECC requirements in COMcheck Version COMcheckWeb and to comply with any applicable mandatory requirements listed in the Inspection Checklist.

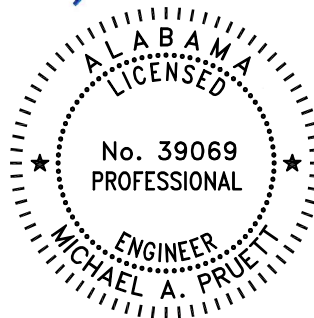
Michael Pruett - Mechanical Engineer

Name - Title

Signature

09/04/2024

Date



History Museum of Mobile  
HVAC Upgrades  
MU-008-24

## **DRAWINGS**



# HISTORY MUSEUM OF MOBILE 2nd CHILLER & BOILER REPLACEMENT

FOR  
 the City of  
**Mobile, Alabama**

MU-008-24

65 GOVERNMENT STREET  
 Mobile, Alabama 36602

BY



Electrical Engineering  
 Alabama Certificate Number CA-4146-E  
 813 Downtowner Blvd., Suite D  
 Mobile, AL 36609  
 P: 251-316-0015 F: 850-453-6612  
 Dell Consulting project: 24-097

## INDEX OF DRAWINGS

DRAWING #	DRAWING DESCRIPTION:
T100	TITLE SHEET
M100	LEGEND NOTES DETAILS SCHEDULES AND ABBREVIATIONS
M200	SITE PLAN – MECHANICAL
M300	ENLARGED PLANS – DEMOLITION
M400	ENLARGED PLANS – NEW WORK
M500	CONTROLS
E100	ELECTRICAL LEGEND, ABBREVIATIONS & SPECIFICATIONS
E200	ELECTRICAL SITE PLAN
E300	ENLARGED ELECTRICAL EXISTING PLAN
E400	ENLARGED ELECTRICAL NEW WORK PLAN
E500	BOILER REPLACEMENT PLAN - ELECTRICAL ADDITIVE ALTERNATE

### SUMMARY OF BASE BID WORK - THE SCOPE OF THIS PROJECT CONSISTS OF:

A ONE FOR ONE REPLACEMENT OF THE EXISTING 480V / 3Ø CHILLER #1.

THE EXISTING CHILLER #1 IS TO BE REMOVED AND REPLACED NEW PER NEW WORK PLANS.

THE EXISTING CHILLED WATER PIPING IS TO BE EXTENDED AS REQUIRED TO ACCOMMODATE THE NEW CHILLER CONFIGURATION AS SHOWN NEW WORK PLANS.

THE EXISTING DISCONNECT AND ASSOCIATED METAL SUPPORT FRAME IS TO BE REMOVED AND REPLACED NEW PER NEW WORK PLANS.

THE EXISTING FEEDER FROM THE EXISTING DISCONNECT TO THE EXISTING CHILLER #1 IS TO BE REMOVED AND REPLACED NEW.

THE EXISTING FEEDER FROM THE EXISTING 300/3 BREAKER IN PANEL "MH" TO THE EXISTING DISCONNECT IS TO REMAIN AND BE CONNECTED TO THE NEW DISCONNECT DURING THE NEW WORK PHASE.

**ADDITIVE ALTERNATE #1:**  
 THE EXISTING GAS FIRED BOILER IS TO BE REMOVED AND REPLACED NEW PER NEW WORK PLANS.

THE EXISTING GAS PIPING AND DUCTWORK SERVING THE EXISTING BOILER IS TO BE RECONFIGURED AND EXTENDED AS REQUIRED TO SERVE THE NEW BOILER AS SHOWN ON THE NEW WORK PLANS.

THE EXISTING CIRCUIT IS TO BE REMOVED AND REPLACED NEW PER NEW WORK PLANS.



**1** OVERALL SITE MAP  
 NOT TO SCALE

HISTORY MUSEUM OF  
 MOBILE CHILLER PLATFORM

REVISION DESCRIPTION  
 NUMBER  
 REVISION

HISTORY MUSEUM OF MOBILE  
 2nd CHILLER & BOILER REPLACEMENT - MU-008-24  
 65 GOVERNMENT STREET, MOBILE, ALABAMA 36602

DESIGNED BY:  
 CM

DRAWN BY:  
 CM

CHECKED BY:  
 CM

DATE:  
 09/04/2024

SHEET TITLE:

MU-013-24  
 TITLE SHEET

SHEET:

T100

SUBMITTAL



### HVAC ABBREVIATIONS

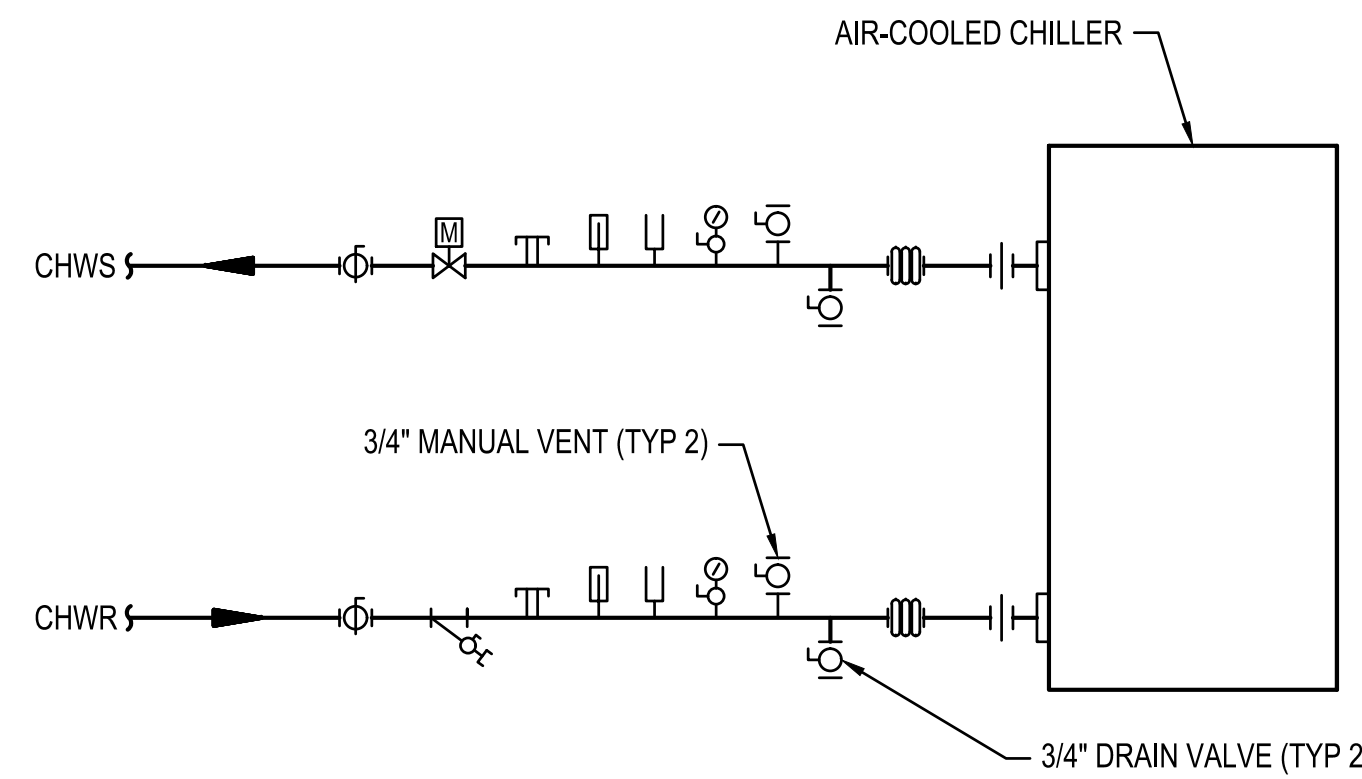
A	AMPS	HD	HEAD
AAV	AUTOMATIC AIR VENT	HP	HORSEPOWER
AFF	ABOVE FINISHED FLOOR	HPU	HEAT PUMP UNIT
AFG	ABOVE FINISHED GRADE	HR	HOUR
AP	ACCESS PANEL	HSPF	HEAT SEASONAL PERFORMANCE FACTOR
APD	AIR PRESSURE DROP	HWP	HEATING HOT WATER PUMP
AHRI	AIR CONDITIONING, HEATING, AND REFRIGERATION INSTITUTE	HWR	HEATING HOT WATER RETURN
AS	AIR SEPARATOR	HWS	HEATING HOT WATER SUPPLY
AUX	AUXILIARY	HZ	HERTZ
BD	BALANCING DAMPER	IAW	IN ACCORDANCE WITH
BHP	BRAKE HORSEPOWER	IN	INCH
BTU	BRITISH THERMAL UNIT	KW	KILOWATT
BTUH	BTU PER HOUR	LB	POUNDS
C	CONDENSATE	LRA	LOCKED ROTOR AMPS
CFM	CUBIC FEET PER MINUTE	LWT	LEAVING WATER TEMPERATURE
CH	CHILLER	MAX	MAXIMUM
CHW	CHILLED WATER	MBH	THOUSANDS OF BTUH
CHWP	CHILLED WATER PUMP	MCA	MINIMUM CIRCUIT AMPACITY
CHWR	CHILLED WATER RETURN	MFR	MANUFACTURER
CHWS	CHILLED WATER SUPPLY	MIN	MINIMUM
CL	CENTER LINE	MISC	MISCELLANEOUS
CO	CLEANOUT	MOC	MAXIMUM OVERCURRENT PROTECTION
COP	COEFFICIENT OF PERFORMANCE	N/A	NOT APPLICABLE
CU	CONDENSING UNIT; COPPER	NC	NORMALLY CLOSED
CV	COEFFICIENT OF VALVE	NO	NORMALLY OPEN; NUMBER
DB	DRY BULB	NTS	NOT TO SCALE
DDC	DIRECT DIGITAL CONTROLS	P	PUMP
DEG	DEGREE	PD	PRESSURE DROP
DELTA-T	TEMPERATURE DIFFERENCE	PG	PRESSURE GAUGE
DEMO	DEMOLISH	PSI	POUNDS PER SQUARE INCH
DIA	DIAMETER	QTY	QUANTITY
DN	DOWN	R	RADIUS; RELAY
DP	DIFFERENTIAL PRESSURE	RLA	RUN LOAD AMPS
DWG	DRAWING	RPM	REVOLUTIONS PER MINUTE
EA	EACH	SF	SQUARE FEET
EER	ENERGY EFFICIENT RATIO	SP	STATIC PRESSURE
EFF	EFFICIENCY	SS	STAINLESS STEEL
ELEC	ELECTRICAL	TYP	TYPICAL
ESP	EXTERNAL STATIC PRESSURE	UG	UNDERGROUND
ET	EXPANSION TANK	V	VOLTS
EWT	ENTERING WATER TEMPERATURE	VFD	VARIABLE FREQUENCY DRIVE
EX	EXISTING	W	WATTS
°F	DEGREE FAHRENHEIT	WB	WET BULB
FLA	FULL LOAD AMPS	WC	WATER COLUMN
FPM	FEET PER MINUTE	WG	WATER GAUGE
FS	FLOW SWITCH	WPD	WATER PRESSURE DROP
FT	FEET	φ	PHASE
GA	GAUGE		
GAL	GALLONS		
GPM	GALLONS PER MINUTE		

### HVAC LEGEND

	DEMO PIPING		AUTOMATIC AIR VENT
	EXISTING PIPING (ABOVE GRADE)		RELIEF VALVE
	EXISTING PIPING (BELOW GRADE)		GAUGE AND COCK
	NEW PIPING		GAUGE TEST PORT (PETE'S PLUG)
	PIPE UP		THERMOMETER
	PIPE DOWN		THERMOWELL
	PIPE CAP		UNION; DIELECTRIC CONNECTION
	BALL VALVE		CONNECT TO EXISTING
	BUTTERFLY VALVE		EQUIPMENT TAG
	CHECK VALVE		
	CALIBRATED BALANCING VALVE		
	GATE VALVE		
	INLINE STRAINER VALVE		
	INLINE STRAINER WITH BLOWDOWN VALVE AND HOSE END CONNECTION		
	TWO-WAY CONTROL VALVE		
	THREE-WAY CONTROL VALVE		

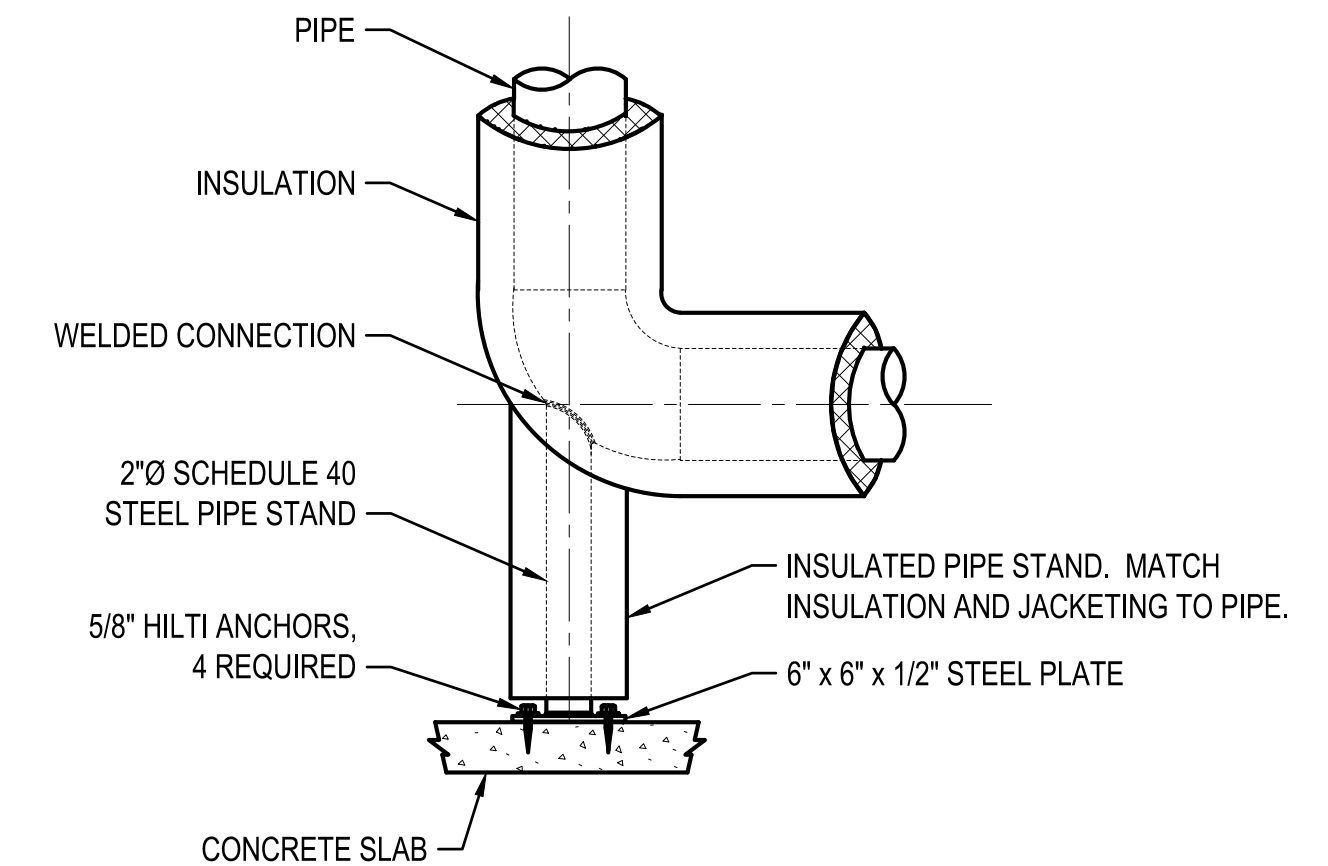
### HVAC GENERAL NOTES

- INSTALL ALL MECHANICAL EQUIPMENT IN ACCORDANCE WITH MANUFACTURERS' RECOMMENDATIONS, CONTRACT DOCUMENTS, AND APPLICABLE CODES AND STANDARDS.
- CONTRACT DOCUMENT DRAWINGS FOR MECHANICAL WORK ARE DIAGRAMMATIC AND INTENDED TO CONVEY SCOPE AND GENERAL ARRANGEMENT ONLY. PROVIDE ALL FITTINGS, ACCESSORIES, PIPING, DUCTWORK, AND CONTROLS AS REQUIRED FOR A FULLY FUNCTIONAL SYSTEM TO MEET THE DESIGN INTENT.
- THE APPROXIMATE LOCATIONS OF EXISTING UTILITIES ARE SHOWN. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION AND SIZE OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK.
- COORDINATE EQUIPMENT CLEARANCES (AS RECOMMENDED BY MANUFACTURER) WITH ALL DISCIPLINES BEFORE INSTALLATION.
- CONCRETE HOUSEKEEPING PADS FOR MECHANICAL EQUIPMENT SHALL BE MINIMUM 4-INCH THICKNESS. PAD SHALL EXTEND BEYOND THE EQUIPMENT A MINIMUM OF 6 IN. ON ALL SIDES WITH CHAMFERED EDGES.
- VERIFY CLEARANCE SPACE AVAILABLE, OFFSETS REQUIRED, STRUCTURAL OPENINGS, AND WORK BY OTHER TRADES PRIOR TO FABRICATION OF PIPING. SUBMIT SHOP DRAWINGS ON PIPING LAYOUT. COORDINATE WITH STRUCTURE. PRESSURE TEST ALL PIPING FOR LEAKS.
- ALL EQUIPMENT, PIPING, ETC. SHALL BE SUPPORTED AS DETAILED, SPECIFIED, AND REQUIRED TO PROVIDE A VIBRATION-FREE INSTALLATION. PROVIDE PIPE FLEX CONNECTIONS FOR ALL EQUIPMENT CONNECTIONS. PROVIDE VIBRATION ISOLATORS FOR ALL EQUIPMENT; SEE SPECIFICATIONS AND DETAILS.
- LOCATIONS AND SIZES OF FLOOR, WALL, AND ROOF OPENINGS SHALL BE COORDINATED WITH ALL OTHER TRADES INVOLVED.
- PROVIDE AUTOMATIC AIR VENTS AT HIGH POINTS AND DRAIN VALVES AT LOW POINTS ON ALL PIPING.
- PIPE INSULATION AND VAPOR BARRIERS SHALL BE CONTINUOUS THROUGH PIPE HANGERS.
- NO PIPING SHALL RUN PARALLEL WITH AND OVER WALLS. AVOID ROUTING PIPING OVER LIGHTS WHEREVER POSSIBLE. PROVIDE MANUFACTURER'S RECOMMENDED CLEARANCE AROUND MECHANICAL EQUIPMENT FOR PROPER OPERATION AND ROUTINE MAINTENANCE.
- PROVIDE SLEEVES AND SEAL ALL PIPE PENETRATIONS OF WALLS AIRTIGHT, REGARDLESS OF WHETHER WALLS ARE FIRE-RATED OR NOT.
- ALL OPENINGS IN FIRE WALLS DUE TO PIPING, CONDUIT, ETC. SHALL BE FIRE-STOPPED WITH AN APPROVED UL-LISTED PRODUCT.
- ALL EXPOSED CONTROL WIRING (MECHANICAL AND ELECTRICAL ROOMS) SHALL BE IN CONDUIT. ALL REMAINING CONTROL WIRING SHALL BE PLENUM-RATED CABLE.
- COORDINATE CONTROLS WORK WITH EXISTING BUILDING AUTOMATION SYSTEM PROVIDER. PROVIDE CONSISTENCY WITH EXISTING POINT NAMING, DYNAMIC GRAPHICS, SCHEDULING, AND ALARMS.



NOTE: PROVIDE ADDITIONAL PIPING SPECIALTIES AND SAFETY DEVICES IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.

**1 AIR-COOLED CHILLER PIPING DETAIL**  
NOT TO SCALE



**2 INSULATED VERTICAL PIPE SUPPORT DETAIL**  
NOT TO SCALE

### AIR-COOLED CHILLER SCHEDULE

MARK	NET CAPACITY (TONS)	REFRIGERANT TYPE	FULL LOAD EFFICIENCY (EER)	NPLV	EVAPORATOR DATA					CONDENSER DATA			COMPRESSOR DATA			ELECTRICAL DATA			PHYSICAL DATA			BASIS OF DESIGN				
					DESIGN FLOW (GPM)	MINIMUM FLOW (GPM)	PASSES	EWT (°F)	LWT (°F)	MAX WPD (FT WG)	DESIGN AMBIENT AIR TEMP. (°F)	FAN QUANTITY	FAN TYPE	QUANTITY	TYPE	CONTROL	UNIT POWER (KW)	MCA	MOC	(V/PH/Hz)	LENGTH (IN.)	WIDTH (IN.)	HEIGHT (IN.)	TOTAL WEIGHT (LB)	MANUFACTURER	MODEL
CH-1	100	R-454B	10.5	15.4	235	145	2	54	44	14.7	95	8	VARIABLE SPEED	4	SCROLL	VFD	112.3	207	250	460/3/60	169	89	93	6,759	TRANE	CGAM

- NOTES:
- INSULATE ALL LOW TEMPERATURE SURFACES.
  - PROVIDE SINGLE POINT POWER CONNECTION.
  - PROVIDE BACnet IP GATEWAY FOR INTEGRATION TO BUILDING AUTOMATION SYSTEM.
  - PROVIDE DISCONNECT SWITCH.

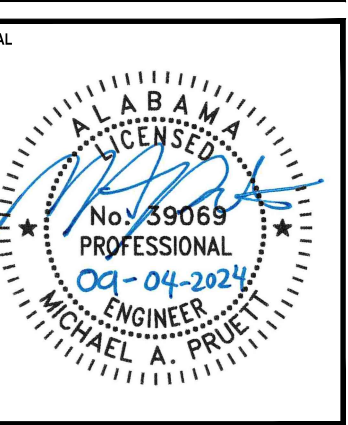
EXISTING GAS FIRED BOILER IS TO BE REMOVED AND REPLACED NEW AS ADDITIVE ALTERNATE #1

### BOILER SCHEDULE

MARK	INPUT (MBH)	THERMAL EFFICIENCY (%)	GROSS OUTPUT (MBH)	TURNDOWN	WATER SIDE				FUEL TYPE	ELEC (V/PH/Hz)	TOTAL WEIGHT (LB)	PHYSICAL DIMENSIONS			BASIS OF DESIGN	
					FLOW (GPM)	MAX	MIN	EWT (°F)				LWT (°F)	LENGTH (IN.)	WIDTH (IN.)	HEIGHT (IN.)	MAKE
B-1	2,501	85.0	2,126	7:1	264	120	130	160	GAS	208/1/60	1,150	55	31	69	RAYPAK	MVB - 2503

- NOTES:
- PROVIDE WALL-MOUNTED BOILER SHUTDOWN SWITCH.
  - PROVIDE MOTORIZED ISOLATION VALVE.
  - PROVIDE BACnet IP GATEWAY FOR INTEGRATION TO BUILDING AUTOMATION SYSTEM.
  - PROVIDE CONDENSATE NEUTRALIZATION KIT.
  - PROVIDE COMMON VENT DAMPER KIT.
  - PROVIDE DISCONNECT SWITCH.

**SUBMITTAL**



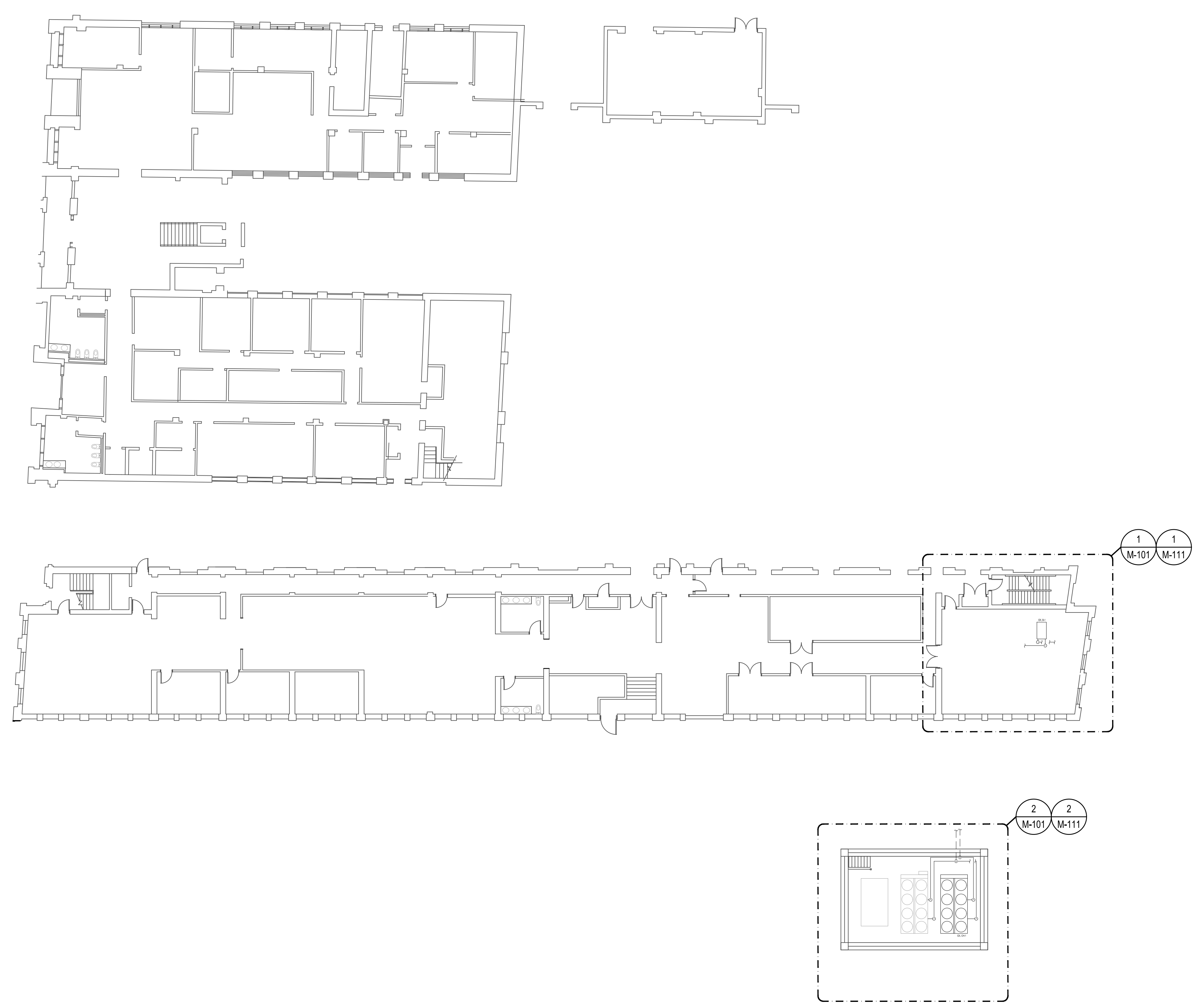
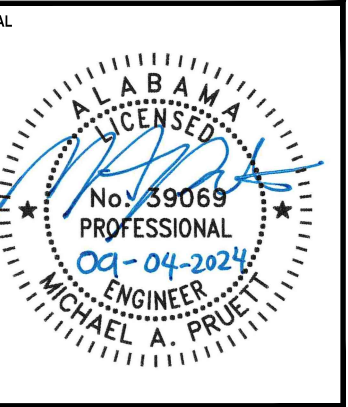
REVISION DESCRIPTION

**HISTORY MUSEUM OF MOBILE  
CHILLER REPLACEMENT - MUJ-008-24**  
65 GOVERNMENT STREET, MOBILE, ALABAMA 36602

DESIGNED BY:  
MP  
DRAWN BY:  
TJM  
CHECKED BY:  
MP  
DATE:  
09/04/2024

SHEET TITLE:  
LEGEND NOTES  
DETAILS SCHEDULES  
AND ABBREVIATIONS

SHEET:  
**M-100**



**1** SITE PLAN - MECHANICAL  
 16' 0' 16' 32'  
 SCALE: 1/16"=1'-0"

NUMBER	REVISION	REVISION DESCRIPTION

**HISTORY MUSEUM OF MOBILE  
 CHILLER REPLACEMENT - MUJ-008-24  
 65 GOVERNMENT STREET, MOBILE, ALABAMA 36602**

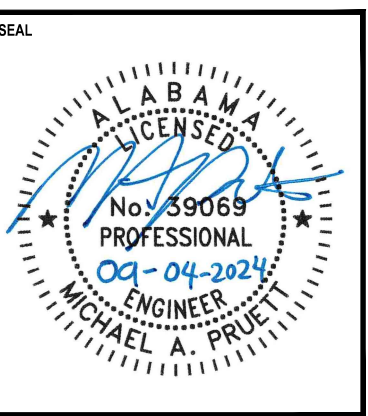
DESIGNED BY:  
 MP  
 DRAWN BY:  
 TJM  
 CHECKED BY:  
 MP  
 DATE:  
 09/04/2024

SHEET TITLE:  
 SITE PLAN - MECHANICAL

SHEET:  
**M-200**

**SUBMITTAL**





NUMBER	REVISION	REVISION DESCRIPTION

**HISTORY MUSEUM OF MOBILE  
CHILLER REPLACEMENT - MU-008-24**  
65 GOVERNMENT STREET, MOBILE, ALABAMA 36602

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TJM  
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MP  
DATE:  
09/04/2024

SHEET TITLE:  
ENLARGED PLANS -  
DEMOLITION

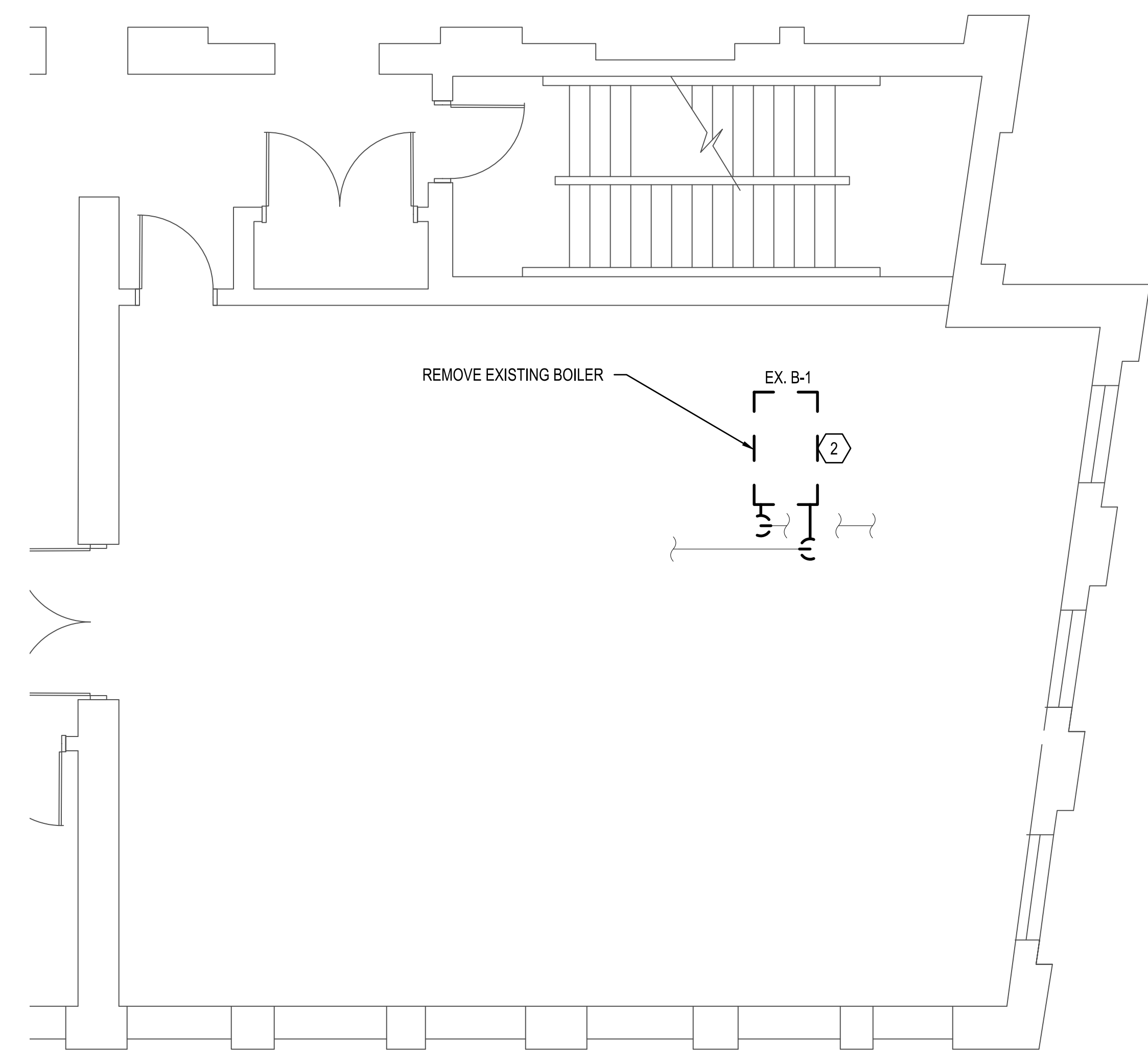
SHEET:  
**M-300**

**TEST, ADJUST, BALANCE NOTES**

- BEFORE THE START OF ANY DEMOLITION WORK, THE TEST AND BALANCE CONTRACTOR SHALL MEASURE AND RECORD THE FOLLOWING WILL ALL CHW CONTROL VALVES SET TO 100% OPEN (COORDINATE WITH FACILITIES PERSONNEL AND CONTROLS CONTRACTOR):
  - CHILLER NAMEPLATE DATA
  - AMBIENT AIR TEMPERATURE (°F)
  - ENTERING AND LEAVING CHW TEMPERATURES (°F) AT EACH CHILLER
  - WATER FLOW (GPM) THROUGH EACH CHILLER
  - WATER PRESSURE DROP (FT. WG) THROUGH EACH CHILLER
 SUBMIT TYPED REPORT TO ENGINEER PRIOR TO DEMOLITION.
- SEE SPECIFICATIONS FOR TAB PROCEDURES DURING CONSTRUCTION.

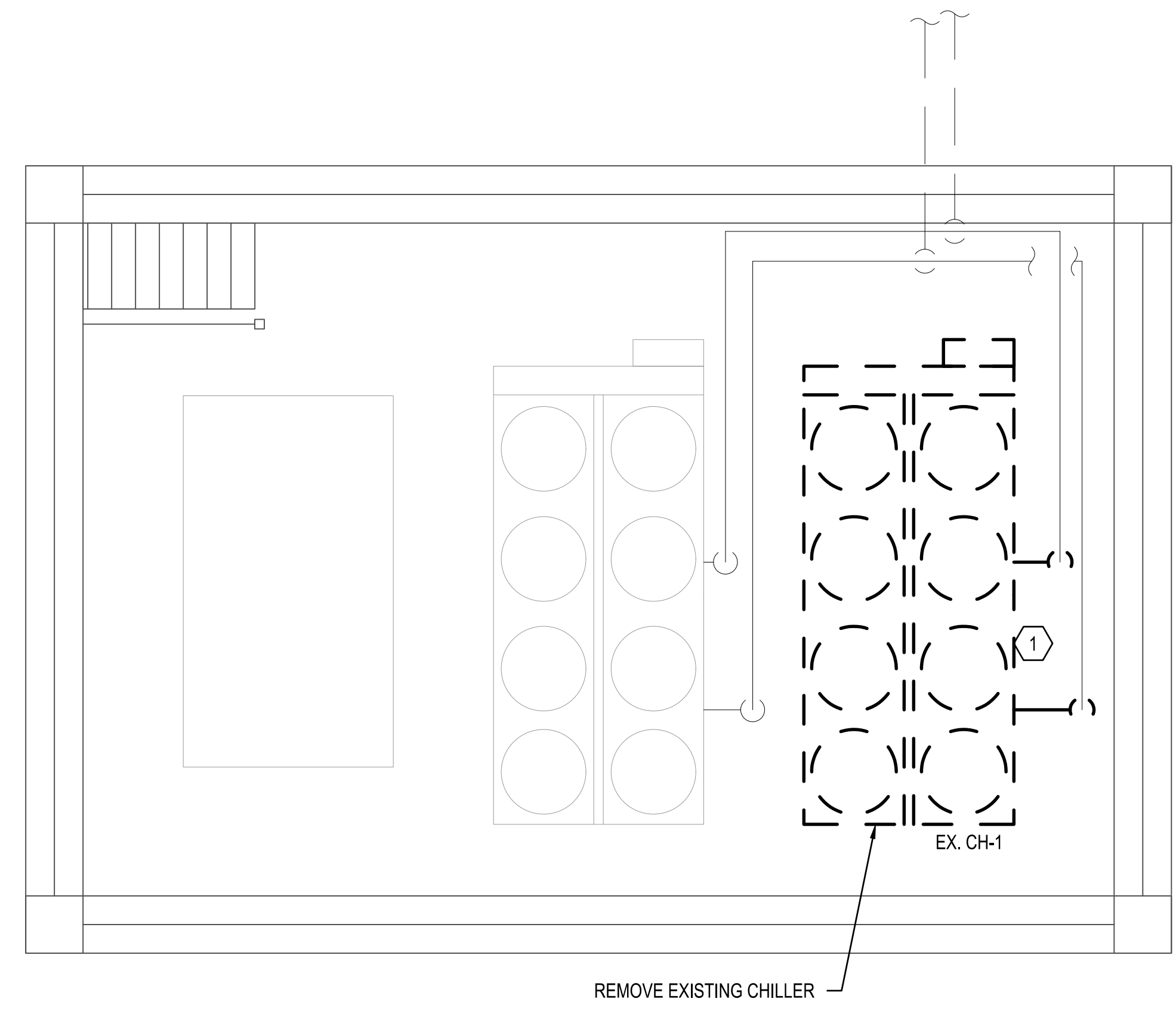
**SHEET NOTES**

- REMOVE EXISTING CHILLER, SUPPORTS, AND CONTROLS. PREPARE EXISTING PIPING FOR CONNECTION OF NEW CHILLER.
- REMOVE EXISTING BOILER, SUPPORTS, AND CONTROLS. PREPARE EXISTING PIPING AND DUCTWORK FOR CONNECTION OF NEW BOILER.

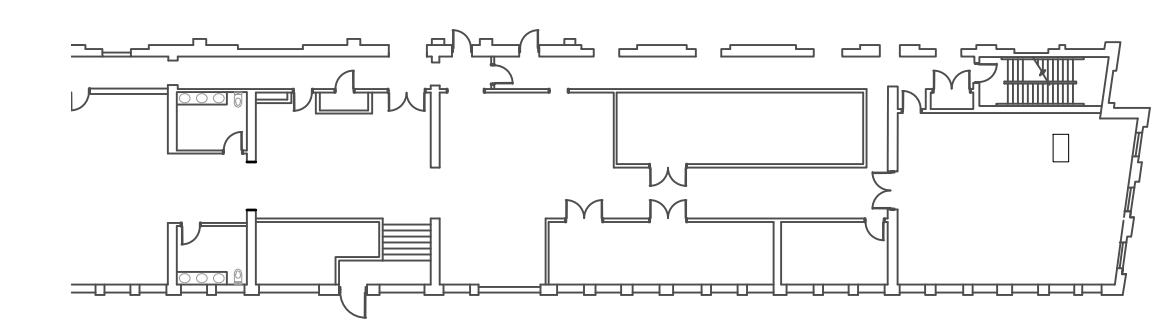


**1** ENLARGED MECHANICAL ROOM PLAN - DEMOLITION  
SCALE: 1/4"=1'-0"

EXISTING GAS FIRED BOILER IS TO BE REMOVED AND REPLACED NEW AS ADDITIVE ALTERNATE #1



**2** ENLARGED MECHANICAL YARD PLAN - DEMOLITION  
SCALE: 1/4"=1'-0"

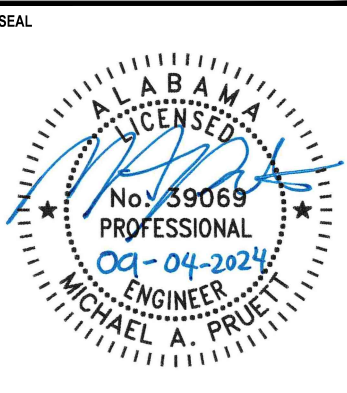


**3** KEY PLAN  
NOT TO SCALE

**SUBMITTAL**

**SHEET NOTES**

- 1 INSTALL AIR-COOLED CHILLER ON VIBRATION ISOLATION ON EXISTING PLATFORM. COORDINATE OPERATIONAL AND SERVICE CLEARANCES WITH MANUFACTURER'S RECOMMENDATIONS.
- 2 CONNECT CHILLER TO EXISTING 6" CHWS&R PIPING AND PROVIDE NEW 6" BUTTERFLY ISOLATION VALVES AND PIPE SPECIALTIES IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS. REFER TO PIPING DETAIL AND SPECIFICATIONS. COORDINATE ISOLATION VALVE REPLACEMENT WITH OUTAGE FOR FLUSHING CHW SYSTEM.
- 3 INSTALLATION OF NEW AIR COOLED WATER CHILLERS SHALL OCCUR DURING UNOCCUPIED HOURS OF THE MUSEUM. COORDINATION WITH THE OWNER TO INSTALL THE NEW CHILLERS IS REQUIRED.
- 4 INSTALL GAS FIRED BOILER IN PREVIOUS BOILER LOCATION. COORDINATE OPERATIONAL AND SERVICE CLEARANCES WITH MANUFACTURER'S RECOMMENDATIONS.
- 5 RECONFIGURE EXISTING GAS PIPING AND DUCTWORK SERVING PREVIOUS BOILER TO SERVE NEW BOILER PER MANUFACTURER'S RECOMMENDATIONS.



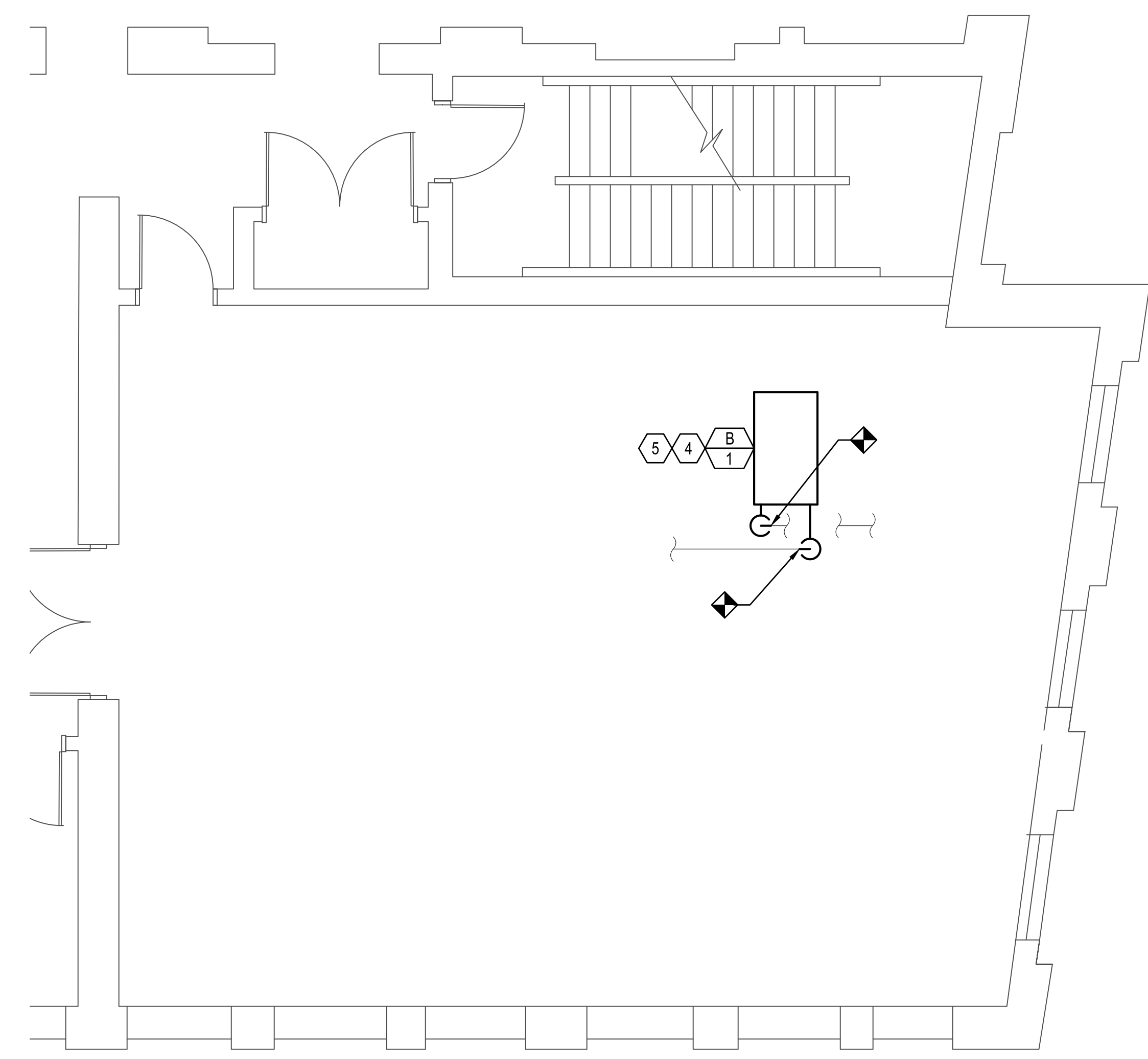
NUMBER	REVISION	REVISION DESCRIPTION

**HISTORY MUSEUM OF MOBILE**  
**CHILLER REPLACEMENT - MUJ-008-24**  
 65 GOVERNMENT STREET, MOBILE, ALABAMA 36602

DESIGNED BY:  
MP  
 DRAWN BY:  
TJM  
 CHECKED BY:  
MP  
 DATE:  
09/04/2024

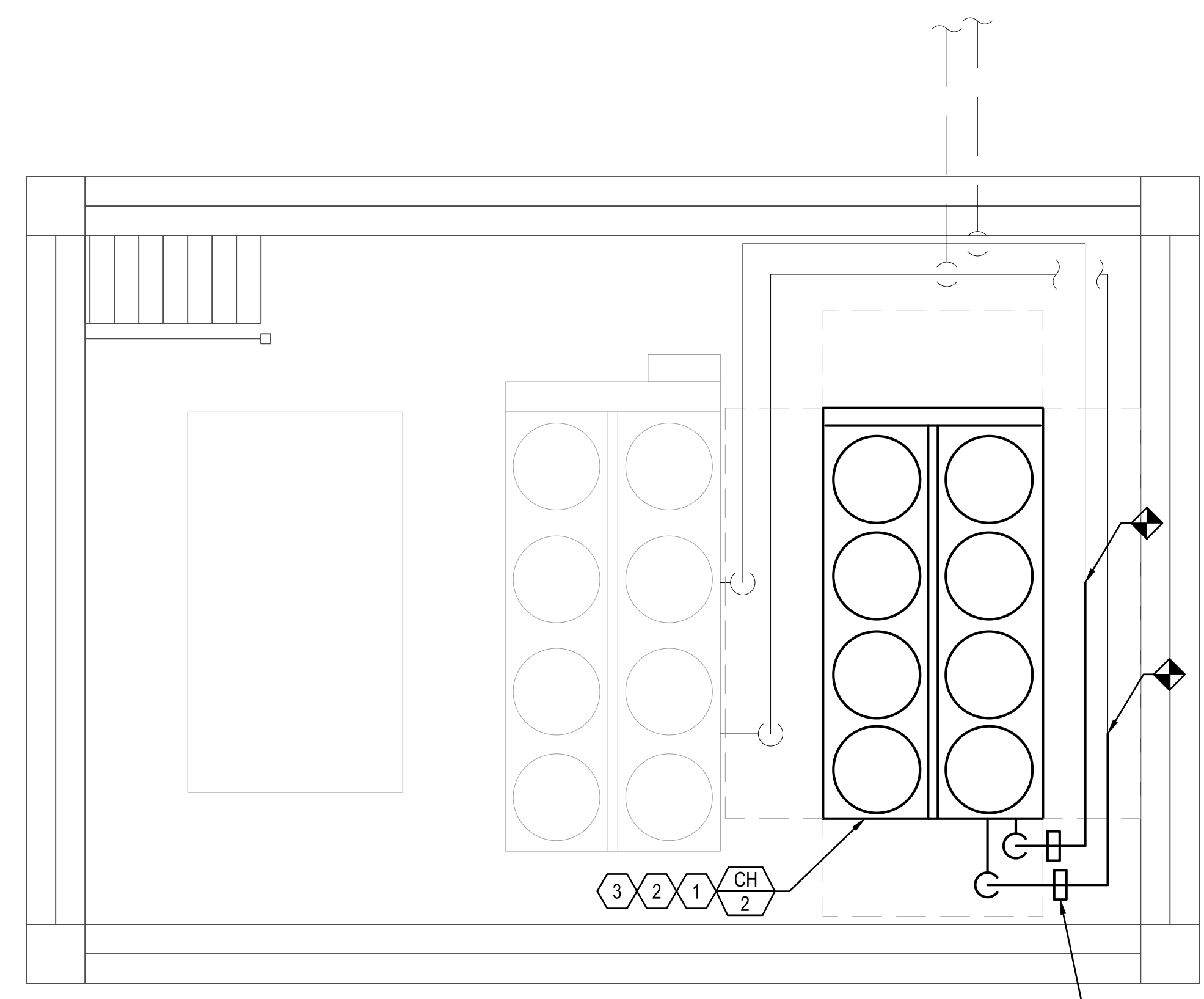
SHEET TITLE:  
ENLARGED PLANS - NEW WORK

SHEET:  
**M-400**

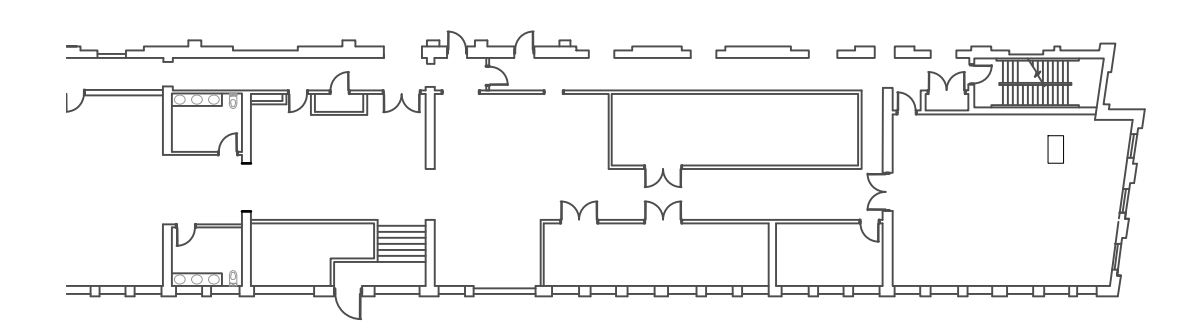


**1 ENLARGED MECHANICAL ROOM PLAN - NEW WORK**  
 SCALE: 1/4"=1'-0"

EXISTING GAS FIRED BOILER IS TO BE REMOVED AND REPLACED NEW AS ADDITIVE ALTERNATE #1



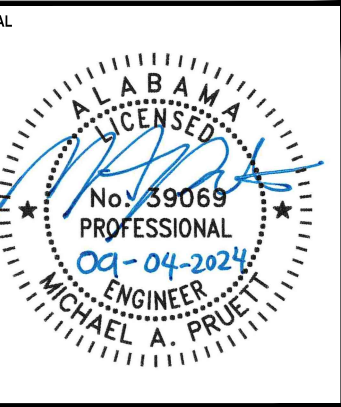
**2 ENLARGED MECHANICAL YARD PLAN - NEW WORK**  
 SCALE: 1/4"=1'-0"



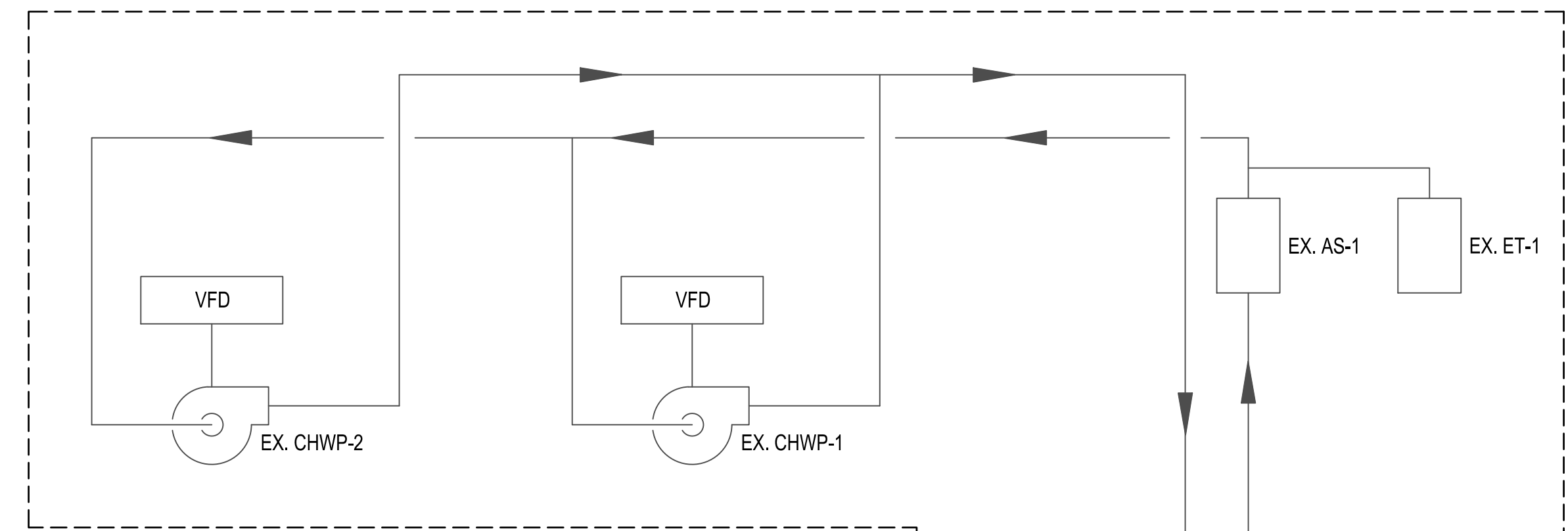
**3 KEY PLAN**  
 NOT TO SCALE

**SUBMITTAL**





NUMBER	REVISION	REVISION DESCRIPTION



**CONTROLS ABBREVIATIONS**

ADJ	ADJUSTABLE
AI	ANALOG INPUT
AO	ANALOG OUTPUT
BAS	BUILDING AUTOMATION SYSTEM
C	COMMAND
COMM	COMMUNICATION
CSR	CURRENT SENSING RELAY
DDC	DIRECT DIGITAL CONTROLS
DI	DIGITAL INPUT
DO	DIGITAL OUTPUT
DPT	DIFFERENTIAL PRESSURE TRANSMITTER
EA	EACH
FB	FEEDBACK
HP	HORSEPOWER
M	MOTORIZED ACTUATOR
NTS	NOT TO SCALE
PPM	PARTS PER MILLION
PSI	POUNDS PER SQUARE INCH
RPM	REVOLUTIONS PER MINUTE
T	TEMPERATURE
TS	TEMPERATURE SENSOR
TYP	TYPICAL
VFD	VARIABLE FREQUENCY DRIVE

**CONTROLS LEGEND**

(AI)	ANALOG INPUT
(AO)	ANALOG OUTPUT
(DI)	DIGITAL INPUT
(DO)	DIGITAL OUTPUT
(COMM)	BAS COMMUNICATION LINK
(-)	CONTROL DEVICE (SEE ABBREVIATIONS FOR TYPE)
(M)	TWO-WAY CONTROL VALVE

**1 CHILLED WATER SYSTEM - CONTROL DIAGRAM**  
NOT TO SCALE

CHILLED WATER SYSTEM - SEQUENCE OF OPERATION

**GENERAL:** THE BUILDING IS COOLED BY A CHILLED WATER SYSTEM WITH TWO AIR-COOLED CHILLERS IN A LEAD/LAG CONFIGURATION.

TWO VARIABLE-PRIMARY CHILLED WATER PUMPS ARE PIPED IN PARALLEL. EACH PUMP IS SIZED TO PROVIDE 100% OF THE BUILDING'S CHILLED WATER CAPACITY. THE PUMPS ARE DESIGNED FOR A LEAD-STANDBY CONFIGURATION, WHERE THE STANDBY / BACKUP PUMP OPERATES ONLY DUE TO PUMP FAILURE OR SERVICE OUTAGE. VARIABLE FREQUENCY DRIVES ARE PROVIDED FOR PUMPS TO MODULATE AS SYSTEM DIFFERENTIAL PRESSURE CHANGES.

CHILLER WILL BE ENABLED TO OPERATE IN AUTOMATIC UPON THE FOLLOWING CONDITIONS:

1. CHILLER SCHEDULED ON (ACCORDING TO BAS SCHEDULE AND AHU STATUS).
2. CHW FLOW IS VERIFIED (VIA PUMP STATUS AND CHILLER FLOW SWITCH).

UPON A CALL FOR CHILLER ON:

1. LEAD CHW PUMP STATUS IS CONFIRMED ON VIA CURRENT SENSOR.
2. MOTORIZED CHILLER ISOLATION VALVE OPENS AND FLOW IS CONFIRMED BY THE CHILLER FLOW SWITCH.
3. CHILLER STARTS AUTOMATICALLY AND MAINTAINS THE ESTABLISHED SUPPLY WATER TEMPERATURE SETPOINT.

UPON A CALL FOR CHILLER OFF:

1. CHILLER SHUTS DOWN AND IS DISABLED.
2. DELAY 1 MIN (ADJ.).
3. MOTORIZED CHILLER ISOLATION VALVE CLOSES.

**CHILLER TEMPERATURE CONTROL:** THE LOCAL CHILLER CONTROL PROCESSOR SHALL MAINTAIN THE SUPPLY WATER TEMPERATURE SETPOINT OF 44°F (ADJ) BY MODULATING CHILLER CAPACITY. FEEDBACK OF CHILLER OPERATION SHALL BE SENT TO THE BAS FROM THE CHILLER CONTROL PANEL. BUILDING OPERATOR SHALL HAVE THE CAPABILITY OF RESETTNG SUPPLY WATER TEMPERATURE THROUGH THE BAS.

**CHILLER ROTATION:** INTEGRATE NEW CHILLERS WITH EXISTING LEAD / LAG ROTATION SEQUENCE.

CHILLER ISOLATION VALVE CONTROL:

1. PROVIDE MODULATING CONTROL VALVE AT EACH CHILLER OPEN / CLOSE BASED ON CHILLER START / STOP.
2. THE BAS SHALL MONITOR DIFFERENTIAL PRESSURE ACROSS THE CHILLER VIA THE DP TRANSMITTER.
3. WITH ONE CHILLER IN OPERATION, THE ASSOCIATED CHILLER ISOLATION VALVE SHALL REMAIN FULLY OPEN.
4. WITH TWO CHILLERS IN OPERATION, THE BAS SHALL MODULATE ONE CHILLER ISOLATION VALVE AS REQUIRED TO EQUALIZE THE DIFFERENTIAL PRESSURE BETWEEN BOTH CHILLERS. ONE ISOLATION VALVE SHALL ALWAYS BE FULLY OPEN.

**INDICATIONS AND ALARMS:** REFER TO THE ASSOCIATED POINTS LIST SCHEDULE.

AIR-COOLED CHILLER - POINTS LIST										
POINT NAME	POINT DESCRIPTION	UNITS	POINT TYPE			SETPOINT VALUE	ALARM CONDITIONS			NOTES
			ANALOG	DIGITAL	VIRTUAL		EQUIP ALARM	HIGH LIMIT OR REFERENCE	LOW LIMIT OR REFERENCE	
INPUT / OUTPUT										
CH_1-CHW-DP	CHILLER #2 EVAPORATOR BARREL DIFFERENTIAL PRESSURE	PSID	X				+3 PSID TO SETPOINT	-3 PSID TO SETPOINT	5.0	(1) (3)
CH_1-C	CHILLER #2 COMMAND	ON / OFF		X					1.0	(1) (2)
CH_1-ST	CHILLER #2 STATUS	ON / OFF		X					1.0	(1) (2)
CH_1-VLV-C	CHILLER #2 CONTROL VALVE COMMAND	% OPEN	X							
CH_1-VLV-FB	CHILLER #2 CONTROL VALVE FEEDBACK	% OPEN	X							
CH_1-CHWS-T	CHILLED WATER SUPPLY TEMPERATURE	°F	X				+2°F TO SETPOINT	-2°F TO SETPOINT	5.0	(1) (3)
CH_1-CHWR-T	CHILLED WATER RETURN TEMPERATURE	°F	X							
SETPOINTS										
CHWS-T-SP	CHILLED WATER SUPPLY TEMPERATURE SETPOINT	°F	X		X	44				

- NOTES:**  
(1) ALL ALARM SETPOINT AND DELAYS SHALL BE ADJUSTABLE.  
(2) EQUIPMENT ALARM MEANS COMMAND STATUS DOES NOT MATCH FEEDBACK STATUS.  
(3) TO SETPOINT MEANS ALARM LIMITS ARE WITH REFERENCE TO ACTIVE FEEDBACK STATUS.

**SUBMITTAL**

**HISTORY MUSEUM OF MOBILE**  
**CHILLER REPLACEMENT - MUJ-008-24**  
**65 GOVERNMENT STREET, MOBILE, ALABAMA 36602**

**DESIGNED BY:**  
MP

**DRAWN BY:**  
TJM

**CHECKED BY:**  
MP

**DATE:**  
09/04/2024

**SHEET TITLE:**  
CONTROLS

**SHEET:**  
M-500



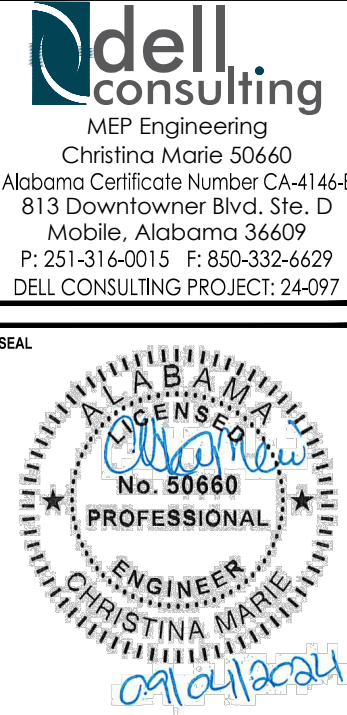
## ELECTRICAL SPECIFICATIONS

1. GENERAL ELECTRICAL:
  - 1.1. THE CONTRACTOR SHALL FURNISH ALL LABOR, MATERIALS AND EQUIPMENT NECESSARY FOR THE INSTALLATION OF A COMPLETE ELECTRICAL SYSTEM AS INDICATED WITHIN THESE DRAWINGS. ALL WORK SHALL BE INSTALLED IN STRICT ACCORDANCE WITH ALL APPLICABLE CODES AND ORDINANCES AND WITH MANUFACTURER'S RECOMMENDATIONS.
  - 1.2. THE CONTRACTOR SHALL CAREFULLY EXAMINE THE ARCHITECTURAL, STRUCTURAL, ELECTRICAL AND MECHANICAL DRAWINGS PRIOR TO SUBMITTING HIS BID. THE CONTRACTOR WILL BE REQUIRED TO FURNISH, INSTALL AND CONNECT ALL ITEMS AS INDICATED ON THE DRAWINGS.
  - 1.3. THE ARCHITECT SHALL BE NOTIFIED OF ANY CONFLICTS, OR INTERFERENCES THAT OCCUR BETWEEN INDIVIDUAL DRAWINGS.
  - 1.4. ALL MATERIALS AND EQUIPMENT SHALL BE INSTALLED IN A NEAT, FIRST CLASS, WORKMANLIKE MANNER, TO THE APPROVAL OF THE ARCHITECT/ENGINEER AND GOVERNING AUTHORITIES.
  - 1.5. IN ADDITION TO THE MANUFACTURERS STANDARD GUARANTEES, THE CONTRACTOR SHALL GUARANTEE ALL MATERIALS, EQUIPMENT AND WORKMANSHIP AGAINST DEFECTS FOR ONE YEAR FROM THE DATE OF FINAL ACCEPTANCE, AND SHALL CORRECT ANY DEFECTS AT NO ADDITIONAL COST TO THE OWNER. ALL LAMPS SHALL BE GUARANTEED FOR 30 DAYS AFTER ACCEPTANCE.
  - 1.6. THE LOADS SHOWN FOR APPLIANCES AND EQUIPMENT ARE BASED ON DESIGN INFORMATION. THE CONTRACTOR SHALL VERIFY ALL APPLIANCE LOADS PRIOR TO RUNNING THE CIRCUIT. THE MINIMUM CIRCUIT REQUIREMENTS SHALL BE BASED ON THE APPLIANCE NAMEPLATE VALUE OR CODE REQUIREMENTS, WHICHEVER IS MORE STRINGENT. ADDITIONAL COMPENSATION SHALL NOT BE ALLOWED FOR APPLIANCE MODIFICATIONS BY THE CONTRACTOR.
  - 1.7. PRIOR APPROVAL: PRIOR APPROVAL SHALL BE REQUIRED FOR ANY MANUFACTURER OTHER THAN THOSE LISTED FOR ALL SPECIFIED ITEMS IN THESE DRAWINGS. SUBMIT ALL REQUESTS FOR PRIOR APPROVAL 2 WEEKS PRIOR TO BID OPENING. ENGINEER'S APPROVAL WILL BE IN THE FORM OF AN ADDENDUM.
2. CODES & STANDARDS:
  - 2.1. INSTALLATION AND MATERIALS SHALL COMPLY WITH THE LATEST ADOPTED EDITION OF THE FOLLOWING CODES & STANDARDS:
    - 2.1.1. NATIONAL ELECTRICAL CODE.
    - 2.1.2. NFPA 72. NATIONAL FIRE PROTECTION CODE.
    - 2.1.3. INTERNATIONAL BUILDING CODE.
    - 2.1.4. INTERNATIONAL ENERGY CONSERVATION CODE.
    - 2.1.5. NFPA 101.
    - 2.1.6. ADA.
    - 2.1.7. ANSI.
    - 2.1.8. NEMA.
    - 2.1.9. OSHA.
    - 2.1.10. UL.
3. ALTERATIONS & ADDITIONS TO EXISTING WORK:
  - 3.1. PROVIDE ALL NECESSARY ADDITIONS AND ALTERATIONS TO EXISTING WORK AS REQUIRED TO PROVIDE AND MAINTAIN A COMPLETE AND PROPER ELECTRICAL INSTALLATION.
  - 3.2. AS NECESSARY, RELOCATE EXISTING ELECTRICAL WORK SO OTHER TRADES CAN PURSUE THEIR WORK.
  - 3.3. MAINTAIN POWER TO EXISTING PORTIONS OF BUILDINGS FED FROM OR THROUGH AREA IN SCOPE OF THIS CONTRACT.
  - 3.4. COORDINATE ALL REQUIRED OUTAGES WITH OWNER.
4. BASIC MATERIALS & METHODS:
  - 4.1. ALL POWER AND DISTRIBUTION CABLING SHALL BE COPPER TYPE THWN/THHN.
  - 4.2. ALL ELECTRICAL EQUIPMENT, DEVICES, ETC. LOCATED OUTDOORS SHALL BE WEATHERPROOF.
  - 4.3. CONDUIT ROUTINGS AND DEVICE / EQUIPMENT LOCATIONS SHOWN ARE DIAGRAMMATIC ONLY. CONTRACTOR SHALL FIELD ROUTE AND LOCATE AS REQUIRED. CONDUIT ROUTINGS SHALL BE PARALLEL OR PERPENDICULAR TO BUILDING LINES.
  - 4.4. COORDINATE ALL ELECTRICAL WORK WITH OTHER TRADES AND STRUCTURAL COMPONENTS.
  - 4.5. THE CONDUIT MATERIAL SHALL BE AS FOLLOWS:
    - 4.5.1. BELOW GRADE - RNC (POWER & SITE LIGHTING ONLY). ELBOWS >1-1/2" SHALL BE RGS.
    - 4.5.2. RISER FROM 36" BELOW GRADE - RGS.

- 4.5.3. CONCEALED RISER FROM 36" BELOW GRADE - RNC (POWER ONLY).
- 4.5.4. ABOVE GRADE SUBJECT TO PHYSICAL ABUSE - RGS.
- 4.5.5. ABOVE GRADE NOT SUBJECT TO PHYSICAL ABUSE OR WEATHER - EMT.
- 4.5.6. FINAL CONDUIT CONNECTIONS TO HEAT PUMPS, AIR HANDLERS, EXHAUST FANS, AND WATER HEATERS SHALL BE LFMC WHETHER INTERIOR OR EXTERIOR.
- 4.6. CONDUIT FITTINGS SHALL BE AS FOLLOWS:
  - 4.6.1. EMT - <2" USE STEEL SET SCREW WITH INSULATED THROATS FOR INTERIOR/ USE COMPRESSION FITTINGS WITH INSULATED THROATS FOR EXTERIOR, >2" USE SET-SCREW STEEL WITH INSULATED THROATS.
  - 4.6.2. RGS - THREADED GALVANIZED STEEL.
  - 4.6.3. PVC - PVC APPROVED FOR THE USE.
  - 4.6.4. FMC - ZINC-PLATED STEEL OR CADMIUM-PLATED MALLEABLE IRON SCREW TYPE WITH INSULATED THROAT.
  - 4.6.5. LFMC - CADMIUM-PLATED MALLEABLE IRON OR STEEL COMPRESSION TYPE WITH INSULATED THROAT.
- 4.7. ALL SIDEWALKS AND PARKING LOT ASPHALT AREAS THAT ARE CUT DUE TO NEW ELECTRICAL SERVICES SHALL BE REPAIRED TO MATCH EXISTING.
- 4.8. ALL DIMENSIONS TO DEVICES AFF SHALL BE TO CENTERLINE UNLESS NOTED OTHERWISE.
- 4.9. FIELD COORDINATE LOCATIONS OF ELECTRICAL EQUIPMENT, DEVICES, OUTLETS, FIXTURES, ETC., WITH MECHANICAL CONTRACTOR AND EQUIPMENT PRIOR TO ROUGH-IN WORK.
5. GROUNDING & BONDING:
  - 5.1. PROVIDE AN INSULATED EQUIPMENT GROUNDING CONDUCTOR IN ALL CONDUITS.
  - 5.2. ALL CABLES SHALL BE COPPER, ALL BOLTED CONNECTIONS SHALL BE BRONZE.
6. IDENTIFICATION:
  - 6.1. PROVIDE ENGRAVED 1"X3" PHENOLIC LABELS FOR ALL PANELBOARDS, SAFETY SWITCHES, TRANSFORMERS, CABINETS, ETC.
  - 6.2. PAINT THE RACEWAY SYSTEM COUPLINGS AND BOX COVERS ABOVE CEILINGS FOR THE FOLLOWING SYSTEMS AS FOLLOWS:
    - 6.2.1. 208 VOLT SYSTEMS - BLACK.
    - 6.2.2. 480 VOLT SYSTEMS - BROWN.
    - 6.2.3. AFTER PAINTING, WRITE THE CIRCUIT NUMBER (I.E. "LPA-34") ON ALL BRANCH CIRCUIT JUNCTION BOX COVERS ABOVE CEILING WITH WHITE MARKER.
7. GENERAL WIRING DEVICES:
  - 7.1. SWITCHES - SPECIFICATION GRADE, 20 AMP, COLOR BY ARCHITECT.
  - 7.2. RECEPTACLES - SPECIFICATION GRADE, 20 AMP, NEMA 5-20R, COLOR BY ARCHITECT.
  - 7.3. COVER PLATES - NYLON, COLOR BY ARCHITECT.
  - 7.4. SPECIAL RECEPTACLES - PER THE DRAWINGS, VERIFY WITH EQUIPMENT BEING SUPPLIED.
  - 7.5. APPROVED MANUFACTURERS - HUBBELL, LEVITON, EAGLE, PASS & SEYMOUR.
8. SAFETY SWITCHES:
  - 8.1. HEAVY DUTY, VISIBLE BLADE, LOCKABLE, QUICK-MAKE/QUICK-BREAK, HORSEPOWER RATED, FUSED WHERE INDICATED.
  - 8.2. PROVIDE WITH GROUND LUG KIT.
  - 8.3. INTERIOR - NEMA 1.
  - 8.4. EXTERIOR - NEMA 3R.
  - 8.5. APPROVED MANUFACTURERS - SQUARE D, GENERAL ELECTRIC, SIEMENS.
9. PANELBOARDS:
  - 9.1. FRONT ACCESSIBLE, BOLT-ON MOLDED CASE C/Bs, COPPER PHASE & NEUTRAL BUSSING, COPPER GROUND BAR, FULLY RATED (SERIES RATING NOT ALLOWED).
  - 9.2. PROVIDE UPDATED TYPE-WRITTEN DIRECTORY IN CLEAR SLEEVE ON INSIDE OF DOOR.
  - 9.3. APPROVED MANUFACTURERS - SIEMENS.

ABBREVIATIONS			
A	AMPS	MCM	THOUSAND CIRCULAR MILS
AC	ABOVE COUNTER	MH	MANHOLE
AF	AMP FRAME	MIN	MINIMUM
AFF	ABOVE FINISHED FLOOR	MISC	MISCELLANEOUS
AFG	ABOVE FINISHED GRADE	MLO	MAIN LUGS ONLY
AHU	AIR HANDLING UNIT	MNT	MOUNTING HEIGHT
AL	ALUMINUM	MTG	MOUNTING
ARCH	ARCHITECT OR ARCHITECTURAL	MTS	MANUAL TRANSFER SWITCH
AT	AMP TRIP	MV	MEDIUM VOLTAGE
ATS	AUTOMATIC TRANSFER SWITCH	N1	NEMA 1
ATU	AIR TERMINAL UNIT	N3R	NEMA 3R
AWG	AMERICAN WIRE GAUGE	N/A	NOT APPLICABLE
BAS	BUILDING AUTOMATION SYSTEM	NA	NOT APPLICABLE
BJ	BONDING JUMPER	NEC	NATIONAL ELECTRICAL CODE
BKR	CIRCUIT BREAKER	NESC	NATIONAL ELECTRICAL SAFETY CODE
BLDG	BUILDING	NEU	NEUTRAL
BOD	BASIS OF DESIGN	OCPD	OVERCURRENT PROTECTION DEVICE
C	CONDUIT	OFOI	OWNER FURNISHED OWNER INSTALLED
C/B	CIRCUIT BREAKER	OFCI	OWNER FURNISHED CONTRACTOR INSTALLED
CL	CURRENT LIMITING	OH	OVERHEAD
CL	CENTERLINE	OHE	OVERHEAD ELECTRIC
CLG	CEILING	OHP	OVERHEAD PRIMARY
CKT	CIRCUIT	OHS	OVERHEAD SECONDARY
CT	CURRENT TRANSFORMER	PBD	PANELBOARD
CU	COPPER	PF	POWER FACTOR
DDC	DIRECT DIGITAL CONTROL	PNL	PANELBOARD
DEMO	DEMOLISH	PT	POTENTIAL TRANSFORMER
EC	ELECTRICAL CONTRACTOR	PWR	POWER
EGC	EQUIPMENT GROUNDING CONDUCTOR	RCPT	RECEPTACLE
ELEC	ELECTRICAL	REQD	REQUIRED
EMGB	ELECTRICAL MAIN GROUNDING BUSBAR	RM	ROOM
EF	EXHAUST FAN	RGS	RIGID GALVANIZED STEEL CONDUIT
EX	EXISTING TO REMAIN	RNC	RIGID NON-METALLIC CONDUIT
EXT	EXTERIOR	RVSS	REDUCED VOLTAGE SOLID STATE
EWC	ELECTRIC WATER COOLER	SA	SURGE ARRESTER
EMT	ELECTRICAL METALLIC TUBING	SCA	SHORT CIRCUIT AMPS
EQUIP	EQUIPMENT	SF	SUPPLY FAN
FMC	FLEXIBLE METAL CONDUIT	SPEC	SPECIFICATION
FACP	FIRE ALARM SYSTEM CONTROL PANEL	SWBD	SWITCHBOARD
FU	FUSE	SWGR	SWITCHGEAR
F/A	FIRE ALARM	TBB	TELECOMMUNICATIONS BONDING BACKBONE
FLA	FULL LOAD AMPS	TR	TELECOMMUNICATIONS ROOM
FLR	FLOOR	TGB	TELECOMMUNICATIONS GROUNDING BUSBAR
FVNR	FULL VOLTAGE NON-REVERSING	TMGB	TELECOMMUNICATIONS MAIN GROUNDING BUSBAR
GFI	GROUND FAULT INTERRUPTER	TVSS	TRANSIENT VOLTAGE SURGE SUPPRESSION
G	GROUND (OR GFI FOR RECEPTACLE SUBSCRIPT)	TYP	TYPICAL
GC	GENERAL CONTRACTOR	UFR	UNDERFLOOR RACEWAY
GND	GROUND	UG	UNDERGROUND
GEC	GROUNDING ELECTRODE CONDUCTOR	UGE	UNDERGROUND ELECTRIC
HH	HANDHOLE	UGP	UNDERGROUND PRIMARY
HOA	HAND-OFF-AUTOMATIC	UGS	UNDERGROUND SECONDARY
HP	HEAT PUMP OR HORSEPOWER	UL	UNDERWRITERS' LABORATORIES
HVAC	HEATING, VENTILATION & AIR-CONDITIONING	UNO	UNLESS NOTED OTHERWISE
IG	ISOLATED GROUND	UPS	UNINTERRUPTIBLE POWER SUPPLY
IMC	INTERMEDIATE METAL CONDUIT	V	VOLT
JB	JUNCTION BOX	VA	VOLT-AMPERES
k	KILO	VAR	VOLT-AMPERES REACTIVE
kAIC	KILO-AMPERE INTERRUPTING CAPABILITY	VAV	VARIABLE AIR VOLUME UNIT
kCML	THOUSAND CIRCULAR MILS	W	WATTS
LCG	LIGHTING CONTROL PANEL	WAO	WORK AREA OUTLET
LTG	LIGHTING	WP	WEATHERPROOF
LFMC	LIQUID TIGHT FLEXIBLE METAL CONDUIT	WSR	WITHSTAND RATING
LV	LOW VOLTAGE	XFMR	TRANSFORMER
MAX	MAXIMUM	XP	EXPLOSION PROOF
MCA	MINIMUM CIRCUIT AMPACITY	φ	PHASE
MCC	MOTOR CONTROL CENTER	72°	DEGREES
MCE	MAIN COMMUNICATIONS EQUIPMENT ROOM	Δ	DELTA
		Ω	OHMS

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NUMBER	REVISION	REVISION DESCRIPTION

## ELECTRICAL LEGEND

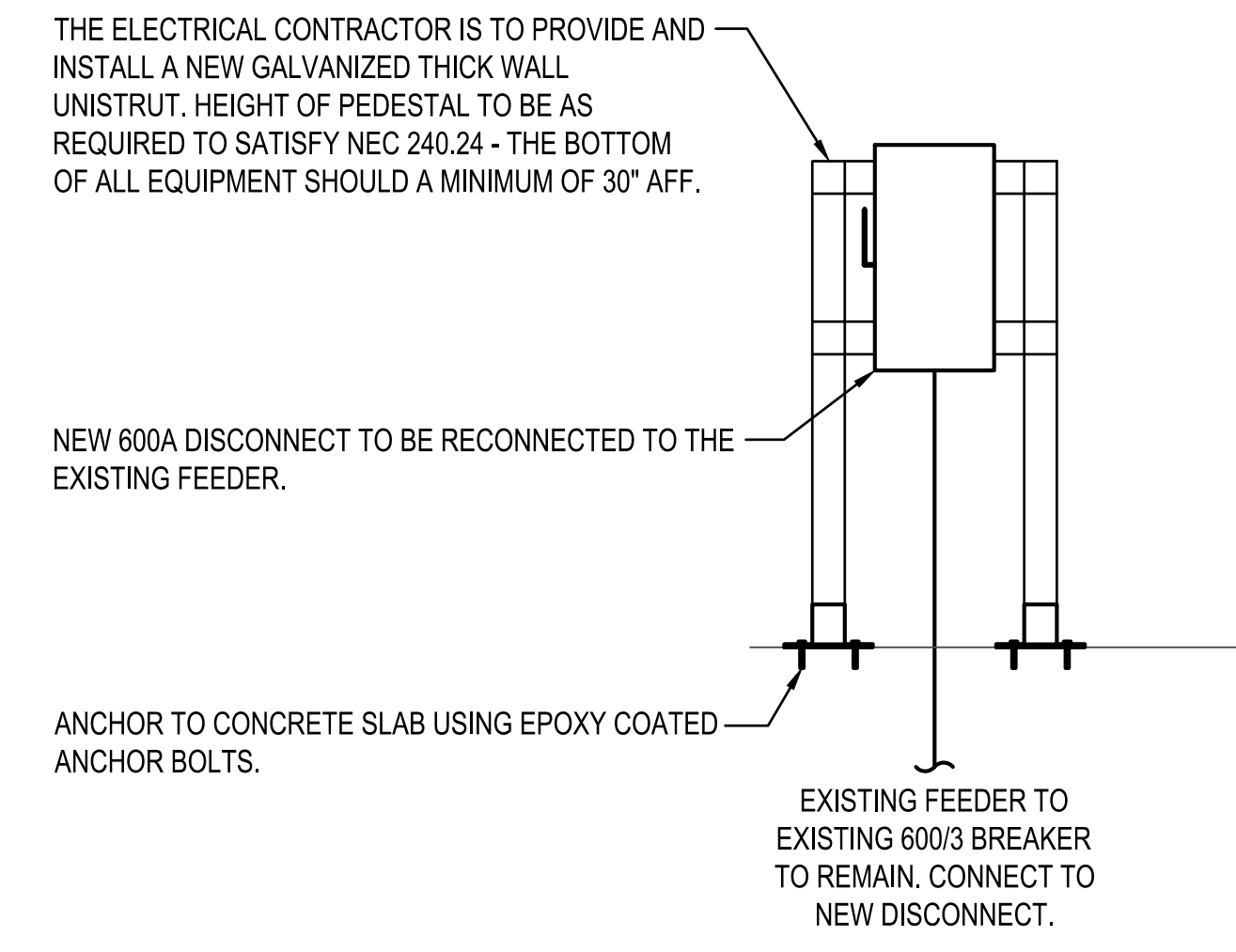
- GENERAL ELECTRICAL DEVICES:**
- ⊕ DUPLEX RECEPTACLE NEMA 5-20R. MOUNT 18" AFF UNLESS NOTED OTHERWISE. VERIFY DUPLEX MOUNTING REQUIREMENTS WITH ARCHITECTURAL DRAWINGS PRIOR TO ROUGH-IN. SUBSCRIPT INDICATES AS FOLLOWS:
    - G - GROUND FAULT CIRCUIT INTERRUPTER TYPE.
    - WP - GFI DEVICE WITH DIECAST WEATHERPROOF BACKBOX & CLEAR WEATHERPROOF (IN-USE) COVERPLATE. IN EXTERIOR LOCATIONS MOUNT 30" AFF.
  - ⊕ SINGLE POLE LIGHTING SWITCH. MOUNT 48" TO TOP OF BOX AFF UNLESS NOTED OTHERWISE. SUBSCRIPT INDICATES AS FOLLOWS:
    - M - TWO POLE MOTOR RATED SWITCH MOUNTED AT THE EQUIPMENT. PROVIDE PHENOLIC LABEL.
  - ⊕ MAINTAINED OPERATOR PUSHBUTTON STATION. RED BUTTON IN STEEL NEMA 1 ENCLOSURE AT 48" AFF. PROVIDE WITH PHENOLIC NAMEPLATE. FLUSH MOUNTED IN FINISHED AREAS.
- DISTRIBUTION & POWER EQUIPMENT:**
- ▭ PANELBOARD. MOUNT AS INDICATED. SEE PANELBOARD SCHEDULES.
  - ▭ DISTRIBUTION PANELBOARD. MOUNT AS INDICATED. SEE PANELBOARD SCHEDULES.
  - ▭ NON-FUSED HEAVY DUTY SAFETY SWITCH. SIZE FOR LOAD BEING SERVED.
  - ▭ FUSED HEAVY DUTY SAFETY SWITCH. SIZE FOR LOAD BEING SERVED.
  - T FLOOR MOUNTED TRANSFORMER WITH CONCRETE HOUSEKEEPING PAD. SEE TRANSFORMER SCHEDULE FOR SIZE AND TYPE.
    - ▭ AUTOMATIC TRANSFER SWITCH.
- SITE EQUIPMENT:**
- ▭ PAD-MOUNTED TRANSFORMER.
- MISCELLANEOUS EQUIPMENT:**
- ⊕ ELECTRICAL CONNECTION TO EQUIPMENT. VERIFY LOCATION WITH EQUIPMENT PROVIDER.
- OTHER:**
- CIRCUIT RUN CONCEALED ABOVE CEILING OR IN WALL.
  - CIRCUIT RUN CONCEALED IN OR BELOW FLOOR SLAB OR UNDERGROUND.
  - 2P2-9 HOMERUN TO PANELBOARD. ANY CIRCUIT WITHOUT FURTHER DESIGNATION SHALL BE 2#12, #12G, 3/4"C. TICK MARKS INDICATE # OF CONDUCTORS (EGC NOT SHOWN). MINIMUM SIZE ON 120V HOMERUNS GREATER THAN 50 FEET SHALL BE #10 AWG. MINIMUM SIZE ON 120V HOMERUNS GREATER THAN 100 FEET SHALL BE #8 AWG. MINIMUM SIZE ON 120V HOMERUNS GREATER THAN 160 FEET SHALL BE #6 AWG. MINIMUM SIZE ON 277V HOMERUNS GREATER THAN 100 FEET SHALL BE #10 AWG. INCREASE CONDUIT SIZE AS REQUIRED PER NEC. UNDERLINED TEXT INDICATES CIRCUIT DESIGNATION.
  - CH 1 MECHANICAL EQUIPMENT IDENTIFICATION TAG. SEE MECHANICAL EQUIPMENT ELECTRICAL SCHEDULE.
  - 1 SHEET NOTE TAG.
  - 4LP1 PANELBOARD, SWITCHBOARD, TRANSFORMER & ELECTRICAL EQUIPMENT IDENTIFICATION TAG.

### EMERGENCY STOP FOR GAS FIRED BOILER

ENGRAVED PLASTIC TAG WITH 1" HIGH WHITE LETTERS ON RED BACKGROUND. TAG SHALL HAVE ALL EDGES BEVELED AND SMOOTH. SECURE TAG WITH 2 CHROME (STAINLESS STEEL FOR WET OR DAMP LOCATIONS) SCREWS. ADHESIVE BACKING, TAPE, ETC IS NOT ALLOWED. TAG SHALL BE SIZED AS REQUIRED TO FIT APPROPRIATE TEXT.

### 3 GAS BOILER E-STOP LABELING DETAIL

NOT TO SCALE

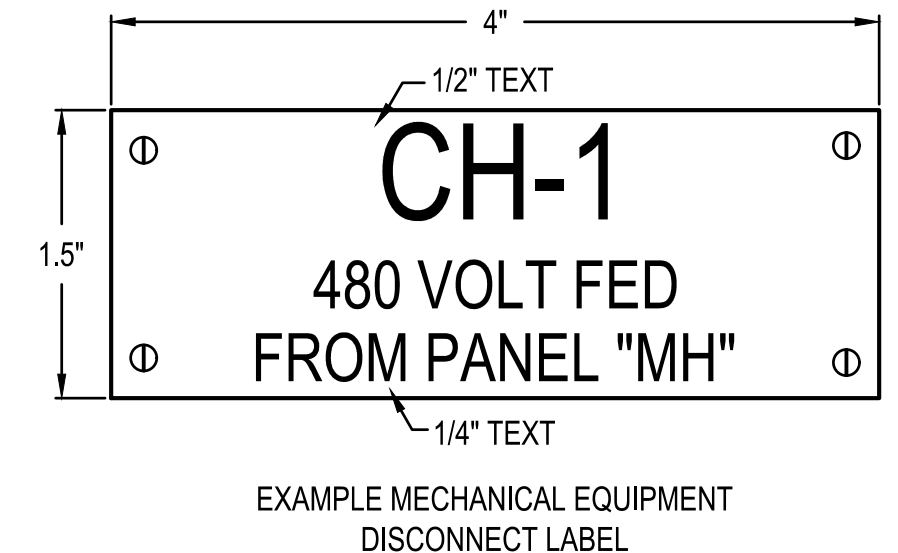


### 1 TYPICAL EQUIPMENT MOUNTING DETAIL

NOT TO SCALE

### 2 TYPICAL EQUIPMENT LABELING DETAIL

NOT TO SCALE



ENGRAVED PLASTIC TAG WITH BLACK LETTERS ON WHITE BACKGROUND (RED BACKGROUND FOR EMERGENCY EQUIPMENT). TAG SHALL HAVE ALL EDGES BEVELED AND SMOOTH. SECURE TAG WITH 4 CHROME (STAINLESS STEEL FOR WET OR DAMP LOCATIONS) SCREWS. ADHESIVE BACKING, TAPE, ETC IS NOT ALLOWED. DIMENSIONS ARE MINIMUM. TAG SHALL BE LARGER AS REQUIRED TO FIT APPROPRIATE TEXT.

**HISTORY MUSEUM OF MOBILE**  
**2nd CHILLER & BOILER REPLACEMENT - MU-008-24**  
**65 GOVERNMENT STREET, MOBILE, ALABAMA 36602**

DESIGNED BY:  
CM

DRAWN BY:  
CM

CHECKED BY:  
CM

DATE:  
09/04/2024

SHEET TITLE:  
ELECTRICAL LEGEND AND SPECIFICATIONS

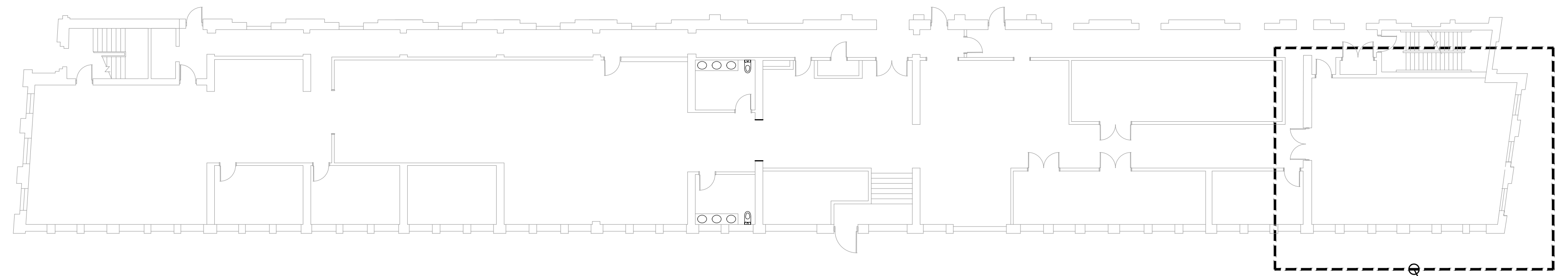
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**SUBMITTAL**



**SHEET NOTES**

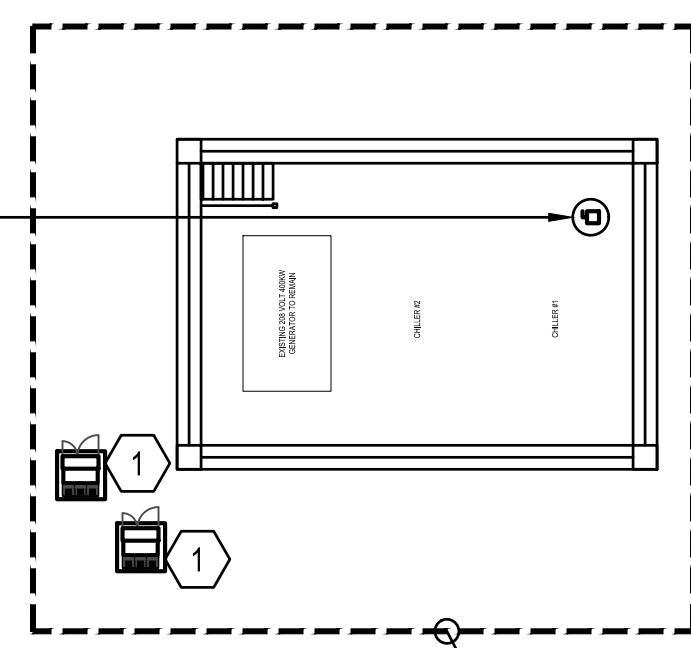
1 APPROXIMATE LOCATION OF EXISTING UTILITY TRANSFORMER TO REMAIN.



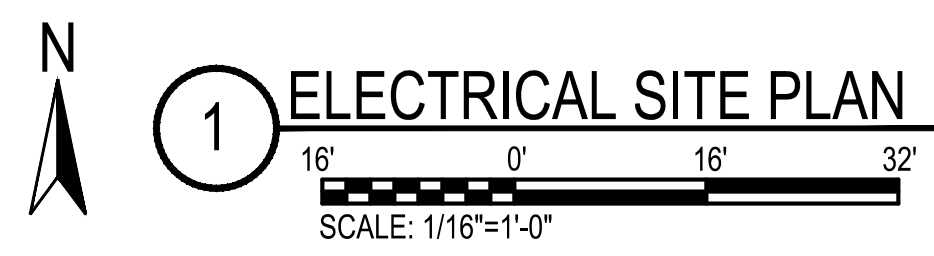
APPROXIMATE LOCATION OF MECHANICAL / ELECTRICAL ROOM - FIELD VERIFY EXACT LOCATION. SEE ENLARGED PLAN FOR MORE INFORMATION.



DISCONNECT FOR CHILLER #1 TO BE REMOVED AND REPLACED NEW



APPROXIMATE LOCATION OF CHILLER PLATFORM - FIELD VERIFY EXACT LOCATION. SEE ENLARGED PLAN FOR MORE INFORMATION.



NUMBER	REVISION	REVISION DESCRIPTION

**HISTORY MUSEUM OF MOBILE**  
**2nd CHILLER & BOILER REPLACEMENT - MU-008-24**  
65 GOVERNMENT STREET, MOBILE, ALABAMA 36602

DESIGNED BY:  
CM  
DRAWN BY:  
CM  
CHECKED BY:  
CM  
DATE:  
09/04/2024

SHEET TITLE:  
ELECTRICAL SITE PLAN

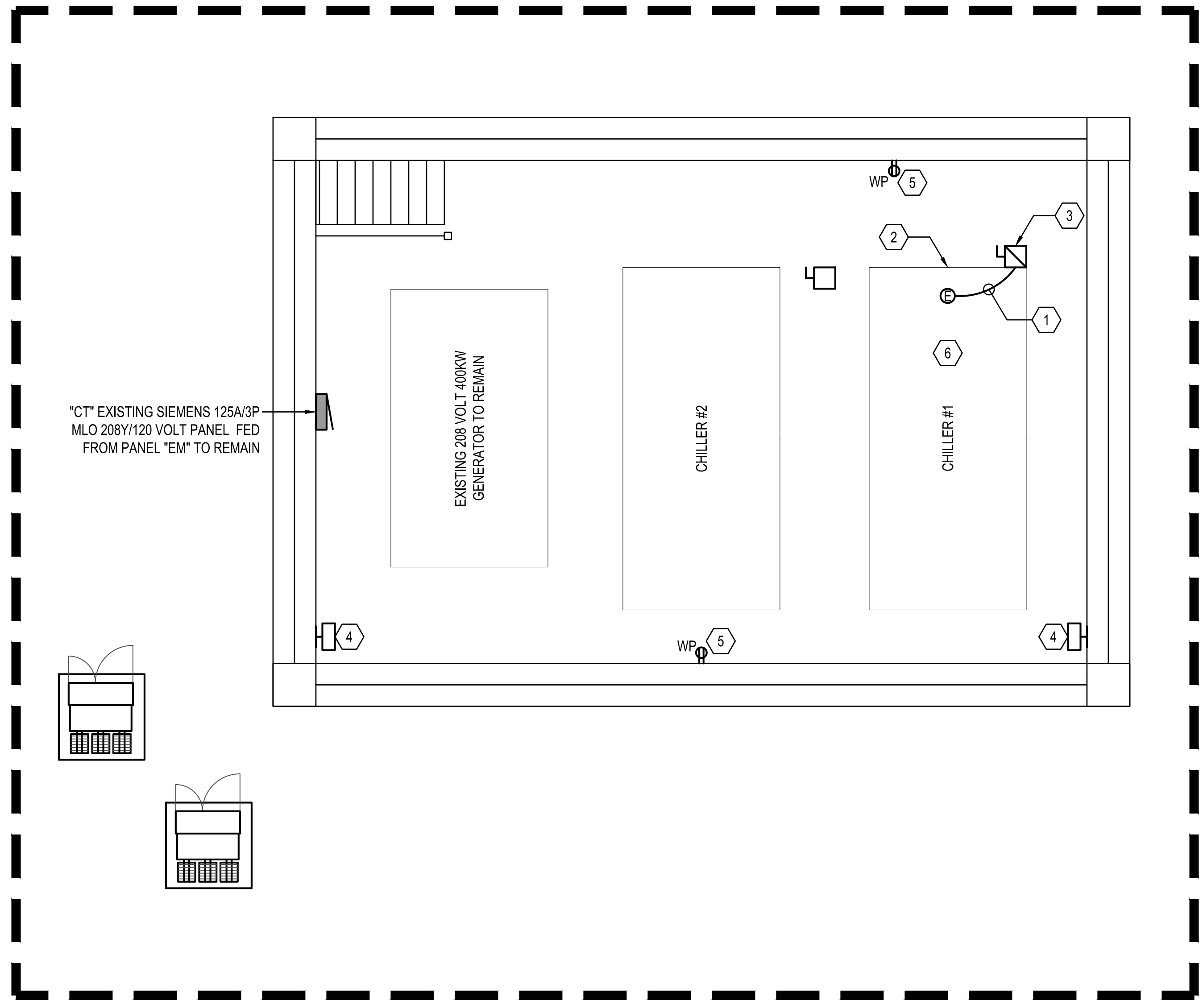
SHEET:  
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**SUBMITTAL**



**GENERAL NOTES**

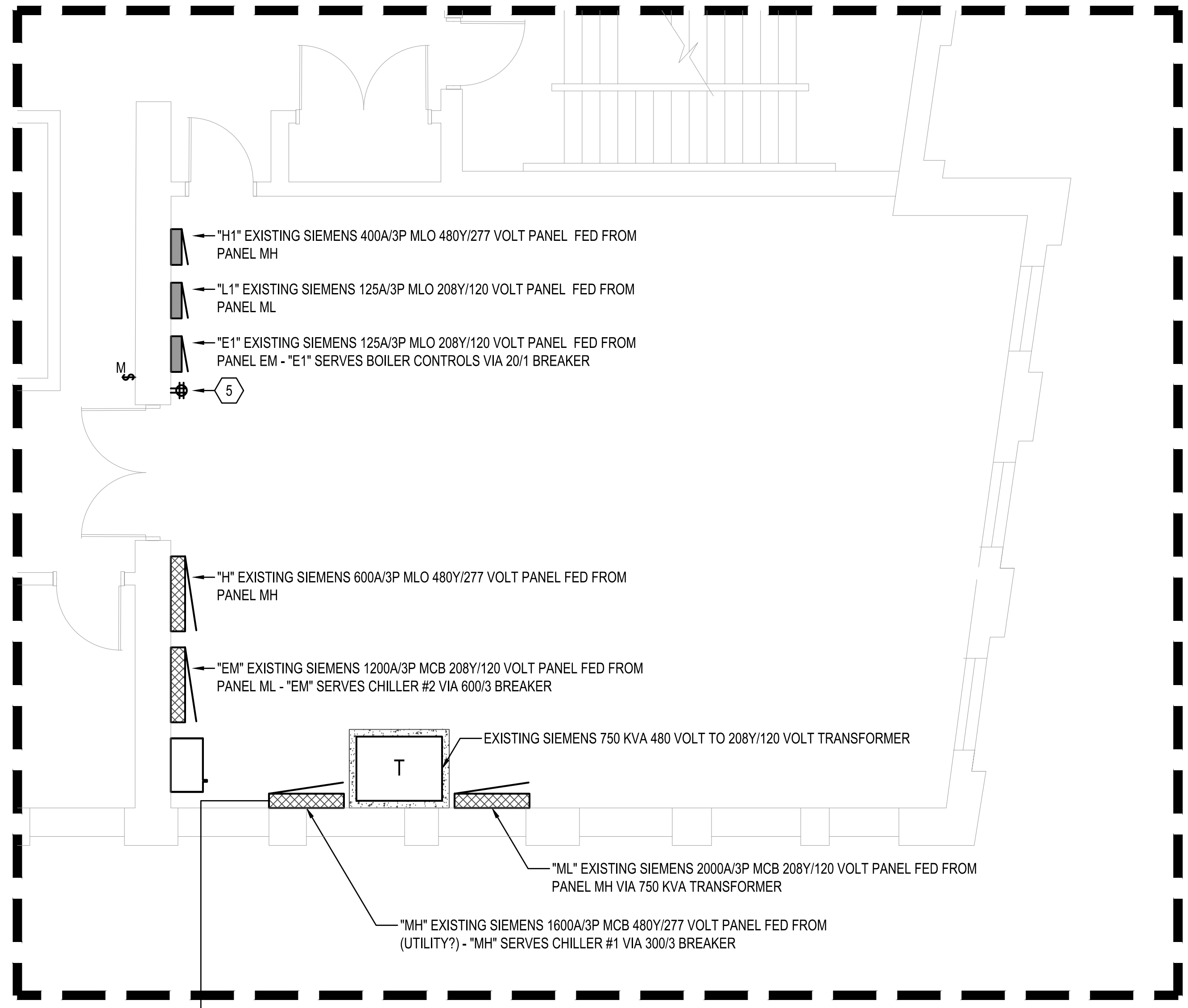
1. THE CONTRACTOR SHALL VISIT THE SITE TO BECOME FAMILIAR WITH THE EXTENT OF WORK PRIOR TO BID.



1 ENLARGED CHILLER PLATFORM EXISTING ELECTRICAL PLAN  
 SCALE: 1/4"=1'-0"

**SHEET NOTES**

- 1 EXISTING CONDUCTORS / CONDUIT FROM EXISTING SAFETY SWITCH TO CHILLER TO BE REMOVED AND REPLACED NEW PER NEW WORK PLANS.
- 2 APPROXIMATE LOCATION OF EXISTING 480V/3Ø 250A CHILLER #1 TO BE REPLACED NEW - SEE NEW WORK ENLARGED ELECTRICAL AND MECHANICAL PLANS FOR MORE INFORMATION.
- 3 EXISTING 400A 480V/3P NEMA 3R FUSED SAFETY SWITCH FUSED AT 250A TO BE REMOVED AND REPLACED NEW PER NEW WORK PLANS. EXISTING FEEDER FROM EXISTING 300A/3P BREAKER TO REMAIN. SECURE DURING THE DEMOLITION PHASE. EXISTING RUSTED METAL SUPPORT FRAME TO BE REMOVED AND REPLACED WITH NEW GALVANIZED THICK WALL UNISTRUT..
- 4 APPROXIMATE LOCATION OF EXISTING SERVICE LIGHT TO REMAIN.
- 5 APPROXIMATE LOCATION OF EXISTING SERVICE RECEPTACLE TO REMAIN.
- 6 EXISTING HEAT TRACE TO REMAIN - DISCONNECT AND SECURE DURING THE DEMOLITION PHASE AND RECONNECT DURING THE NEW WORK PHASE.



2 ENLARGED ELECTRICAL / MECHANICAL ROOM EXISTING ELECTRICAL PLAN  
 SCALE: 1/4"=1'-0"



NUMBER	REVISION	REVISION DESCRIPTION

**HISTORY MUSEUM OF MOBILE**  
**2nd CHILLER & BOILER REPLACEMENT - MU-008-24**  
 65 GOVERNMENT STREET, MOBILE, ALABAMA 36602

DESIGNED BY:  
 CM  
 DRAWN BY:  
 CM  
 CHECKED BY:  
 CM  
 DATE:  
 09/04/2024

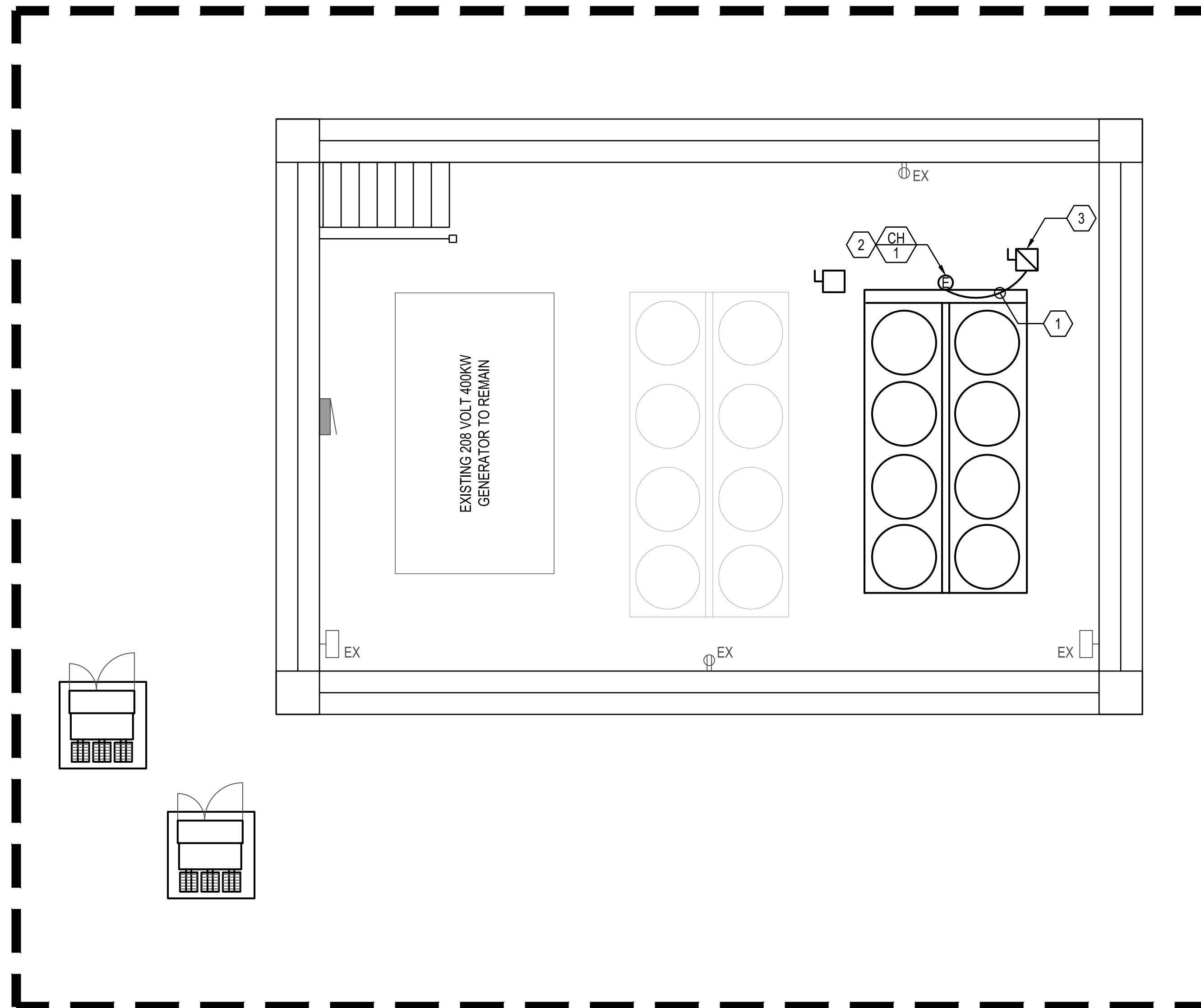
SHEET TITLE:  
 ENLARGED ELECTRICAL EXISTING PLAN

SHEET:  
 E300

**SUBMITTAL**

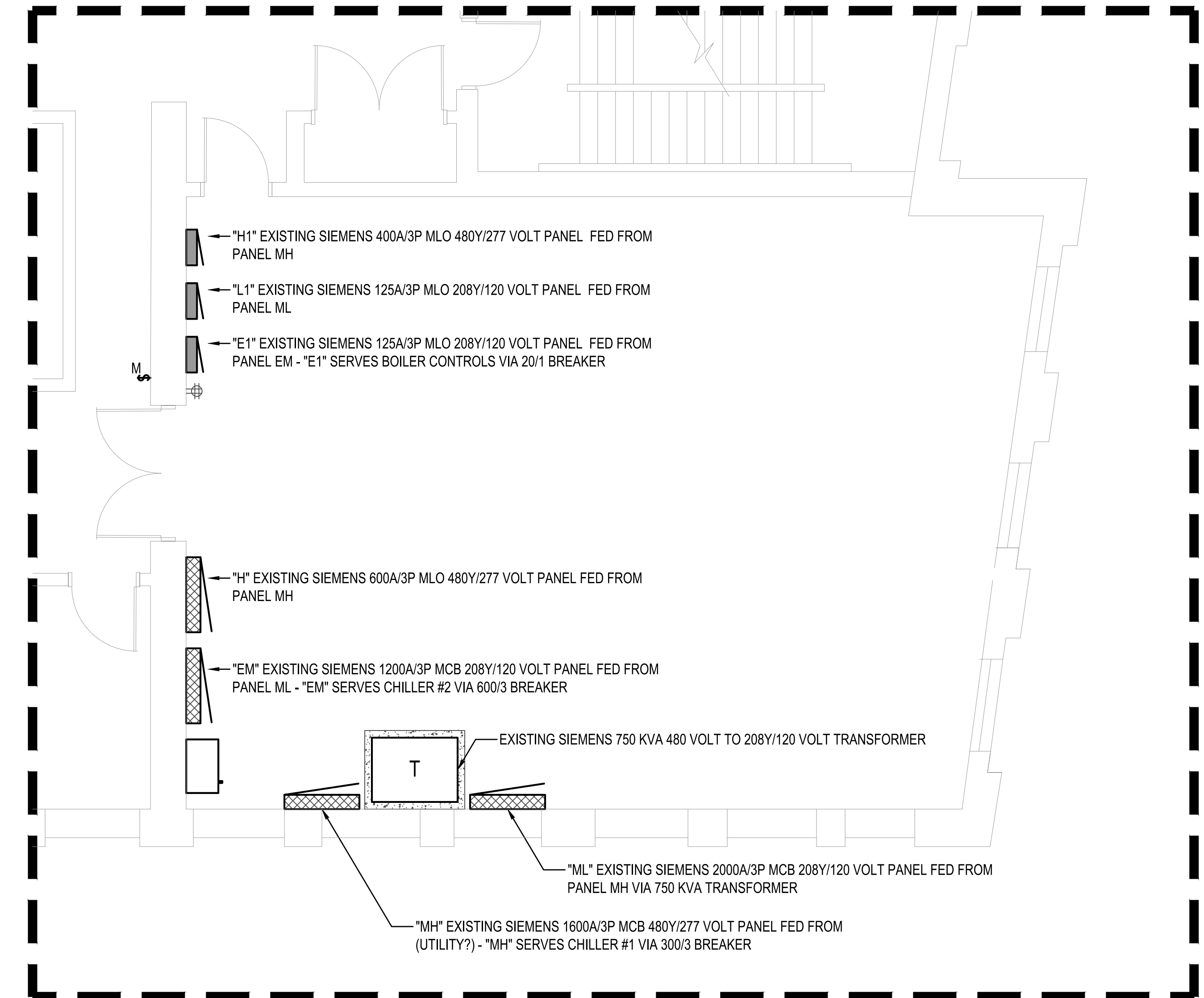
### GENERAL NOTES

- COORDINATE ALL ASPECTS OF THE NEW WORK WITH THE MECHANICAL CONTRACTOR PRIOR TO BEGINNING ANY WORK. COORDINATE FINAL LOCATION OF EQUIPMENT AND POWER REQUIREMENTS WITH MECHANICAL CONTRACTOR AND ADJUST AS REQUIRED. NEW EQUIPMENT IS TO BE CONNECTED TO EXISTING FEEDER FROM EXISTING BREAKER - IF POWER REQUIREMENTS OF NEW EQUIPMENT DIFFER THAN WHAT IS SPECIFIED IN CONTRACT DOCUMENTS, IT IS TO BE BROUGHT TO THE ATTENTION OF THE ENGINEER TO ENSURE MODIFICATIONS ARE NOT NEEDED.
- ALL NEW ELECTRICAL EQUIPMENT IS TO BE LOCATED AND INSTALLED SO THAT ALL REQUIRED CLEARANCES AND WORKING SPACES ARE MAINTAINED IN ACCORDANCE WITH NEC 110.26.



### SHEET NOTES

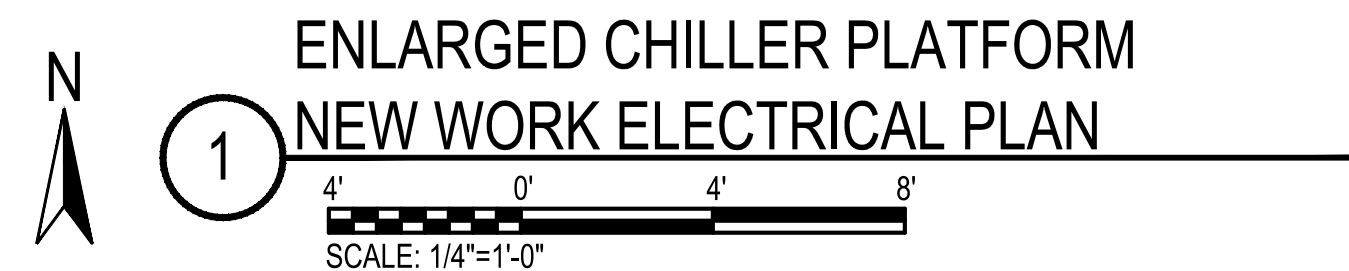
- PROVIDE AND INSTALL NEW CONDUCTORS / CONDUIT FROM NEW 400A 480V/3P NEMA 3R FUSED SAFETY SWITCH FUSED AT 250A TO NEW CHILLER PER MECHANICAL ELECTRICAL EQUIPMENT SCHEDULE.
- LOCATION OF NEW 480V/3Ø 250A CHILLER #1 - FIELD COORDINATE FINAL LOCATION AND POWER REQUIREMENTS / CONNECTION WITH MECHANICAL CONTRACTOR PRIOR TO BEGINNING ANY WORK.
- NEW 400A 480V/3P NEMA 3R FUSED SAFETY SWITCH FUSED AT 250A TO BE CONNECTED TO EXISTING FEEDER FROM EXISTING 300A/3P BREAKER. PROVIDE NEW METAL SUPPORT FRAME FOR NEW DISCONNECT.



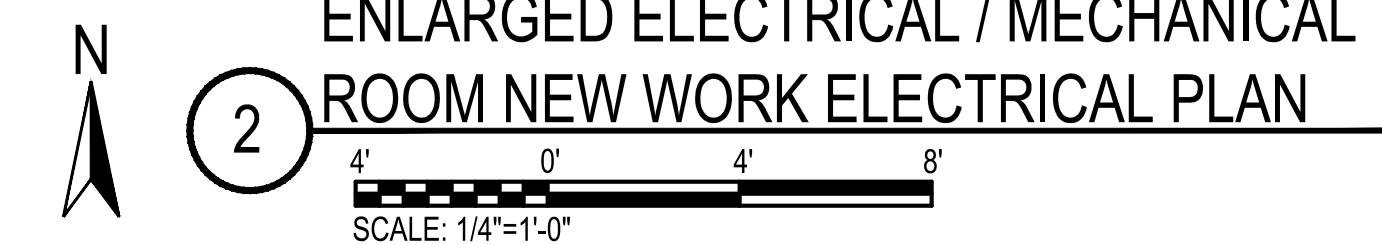
### MECHANICAL EQUIPMENT ELECTRICAL SCHEDULE

MARK	ITEM	VOLTAGE/Ø	MCA	LOAD	MEANS OF DISCONNECT*	C/B TRIP (AMPS)	CIRCUIT			SERVING PANEL	NOTES
							Ø	GROUND	CONDUIT		
CH-1	AIR COOLED CHILLER	208V/3P	207	112.3 KW	FSS 250/400/3 N3R	250	3#4/0	#2	2 1/2" C	"MH"	

NOTES: \*N1=NEMA 1, N3R=NEMA 3R, SS=SAFETY SWITCH, FSS=FUSED SAFETY SWITCH, C/B=SERVING C/B, TS=MANUAL TOGGLE SWITCH, TSM=MOTOR RATED TS  
SAFETY SWITCHES THE 1ST # IS FUSE SIZE, THE 2ND # IS FRAME SIZE (FOR EXAMPLE: 90/100/3 N1,FSS INDICATES A 3 POLE 100A FUSED SAFETY SWITCH WITH 90A FUSES)



ENLARGED CHILLER PLATFORM  
NEW WORK ELECTRICAL PLAN



ENLARGED ELECTRICAL / MECHANICAL  
ROOM NEW WORK ELECTRICAL PLAN

NUMBER	REVISION	REVISION DESCRIPTION

**HISTORY MUSEUM OF MOBILE**  
**2nd CHILLER & BOILER REPLACEMENT - MU-008-24**  
65 GOVERNMENT STREET, MOBILE, ALABAMA 36602

DESIGNED BY:  
CM  
DRAWN BY:  
CM  
CHECKED BY:  
CM  
DATE:  
09/04/2024

SHEET TITLE:  
ENLARGED ELECTRICAL NEW WORK PLAN

SHEET:  
E400

SUBMITTAL



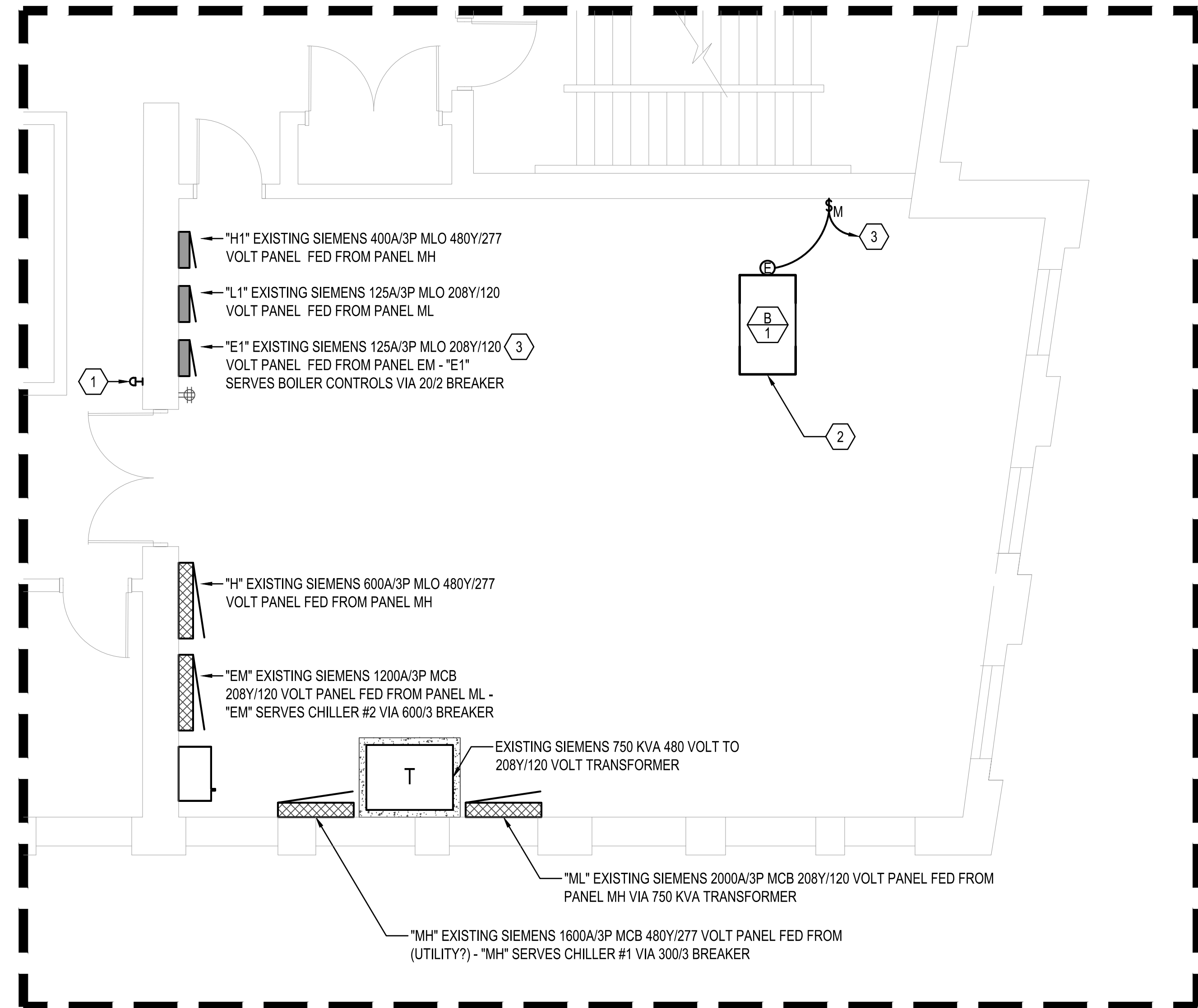
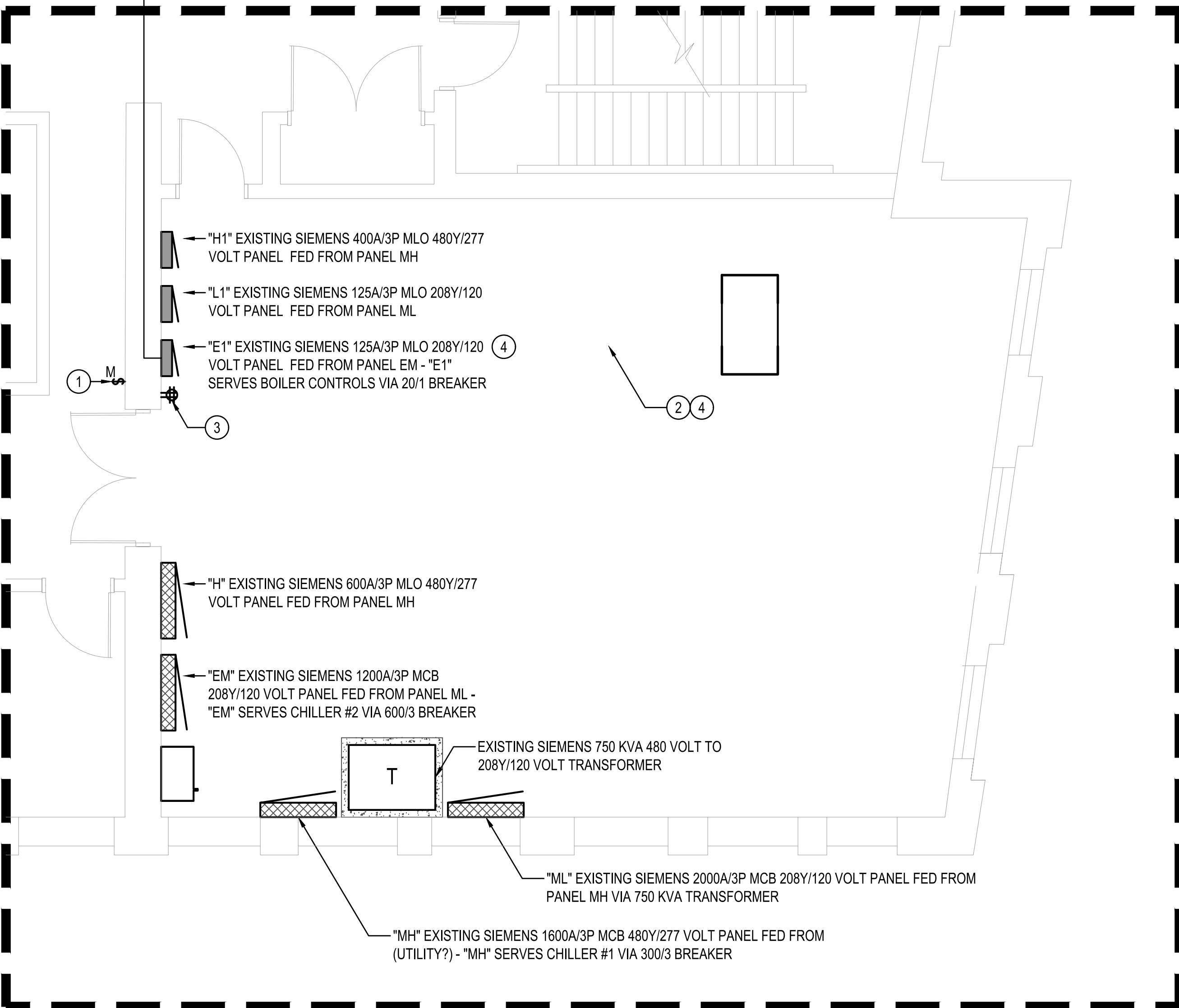
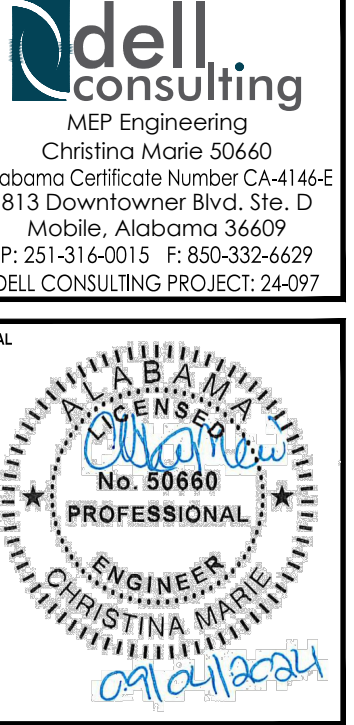
PANEL	FED FROM
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### DEMO WORK SHEET NOTES

- APPROXIMATE LOCATION OF THE EXISTING BOILER SHUT OFF SWITCH TO BE REPLACED NEW - SEE NEW WORK ELECTRICAL AND MECHANICAL PLANS FOR MORE INFORMATION.
- APPROXIMATE LOCATION OF EXISTING GAS FIRED BOILER TO BE REPLACED NEW - SEE NEW WORK ELECTRICAL AND MECHANICAL PLANS FOR MORE INFORMATION. REMOVE EXISTING CIRCUIT AND REPLACE NEW PER NEW WORK PLANS.
- APPROXIMATE LOCATION OF EXISTING SERVICE RECEPTACLE TO REMAIN.
- EXISTING BOILER CONTROLS ARE SERVED BY A 20/1 BREAKER. THIS CIRCUIT IS TO BE COMPLETELY REMOVED AND REPLACED NEW PER NEW WORK PLANS. EXISTING BREAKER TO BE MARKED AS SPARE.

### NEW WORK SHEET NOTES

- NEW BOILER SHUT OFF SWITCH PROVIDED AND INSTALLED BY OTHERS - COORDINATE CONNECTION WITH MECHANICAL CONTRACTOR TO ENSURE BOTH THE GAS AND POWER SUPPLY TO THE BOILER ARE DISCONNECTED UPON ACTIVATION.
- APPROXIMATE LOCATION OF NEW GAS FIRED BOILER INSTALLED BY OTHERS.
- THE ELECTRICAL CONTRACTOR SHALL PROVIDE AND INSTALL A NEW 20/2 SHUNT TRIP BREAKER (10K AIC) IN A BLANK SPACE IN PANEL "E1" TO SERVE THE NEW BOILER CONTROLS. PROVIDE AND INSTALL NEW 2#12, #12G IN 3/4" CONDUIT FROM THE NEW BREAKER TO THE NEW BOILER CONTROLS. COORDINATE ALL ASPECTS OF THE BOILER INSTALLATION AND CONNECTION WITH THE MECHANICAL CONTRACTOR PRIOR TO ROUGH IN.
- THE ELECTRICAL CONTRACTOR IS TO COORDINATE WITH THE MECHANICAL CONTRACTOR TO INTERCONNECT THE E-STOP WITH THE NEW SHUNT TRIP BREAKER TO ENSURE BOTH THE GAS AND POWER SUPPLY TO THE BOILER ARE DISCONNECTED UPON ACTIVATION OF THE E-STOP. SEE DETAIL FOR E-STOP LABELING REQUIREMENTS.



MARK	ITEM	VOLTAGE/Ø	MCA	LOAD	MEANS OF DISCONNECT*	C/B TRIP (AMPS)	CIRCUIT			SERVING PANEL	NOTES
							Ø	GROUND	CONDUIT		
B-1	GAS FIRED BOILER	208V/1P	20	2.9 KVA	TSM	20	2#12	#12	3/4" C	"E1"	

NOTES \*N1=NEMA 1, N3R=NEMA 3R, SS=SAFETY SWITCH, FSS=FUSED SAFETY SWITCH, C/B=SERVING C/B, TS=MANUAL TOGGLE SWITCH, TSM=MOTOR RATED TS  
SAFETY SWITCHES THE 1ST # IS FUSE SIZE, THE 2ND # IS FRAME SIZE (FOR EXAMPLE: 90/100/3 N1,FSS INDICTAES A 3 POLE 100A FUSED SAFETY SWITCH WITH 90A FUSES)

ENLARGED BOILER ROOM EXISTING PLAN  
ADDITIVE ALTERNATE #1  
SCALE: 1/4"=1'-0"

ENLARGED BOILER ROOM NEW WORK PLAN  
ADDITIVE ALTERNATE #1  
SCALE: 1/4"=1'-0"

NUMBER	REVISION	REVISION DESCRIPTION

HISTORY MUSEUM OF MOBILE  
2nd CHILLER & BOILER REPLACEMENT - MU-008-24  
65 GOVERNMENT STREET, MOBILE, ALABAMA 36602

DESIGNED BY: CM  
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SHEET: E500

SUBMITTAL