

**Woolfolk Building Ninth Floor Renovations
Department of Finance & Administration
Capitol Facilities
Jackson, Mississippi**

GS# 350-025

Architect's Project No. 1411

1 September 2015

OWNER

Bureau of Building, Grounds, and Real Property
501 N. West Street
1401 Woolfolk Building, Suite B
Jackson, MS 39201

USER

Department of Finance and Administration
Jackson, Mississippi 39201

ARCHITECT

Burris/Wagnon Architects, P.A.
500L East Woodrow Wilson Avenue
Jackson, MS 39216

MECHANICAL CONSULTANT

Engineering Resource Group
350 Edgewood Terrace Drive
Jackson, MS 39206

ELECTRICAL CONSULTANT

Schultz & Wynne, P.A.
4523 Office Park Drive
Jackson, MS 39206

SPECIFICATIONS FOR

GS NO. 350-025

***WOOLFOLK BUILDING NINTH FLOOR RENOVATION
DEPARTMENT OF FINANCE & ADMINISTRATION CAPITOL FACILITIES
501 NORTH WEST STREET, JACKSON, MISSISSIPPI 39201***

***FOR THE DFA INSURANCE DEPARTMENT
501 NORTH WEST STREET, SUITE 901
Jackson, MS.***

SEPTEMBER 01, 2015

Department of Finance and Administration (the "DFA")
Office of Capitol Facilities
501 N. West Street
Jackson, MS39201

Sealed Bids, subject to the conditions made a part hereof, will be received on October 28, 2015, at 2:00 P.M. in Suite 1301B, Woolfolk Bldg., Jackson, MS, for Construction of the project as described herein.

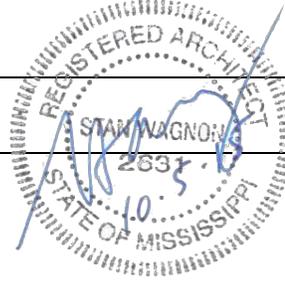
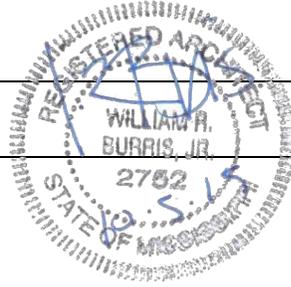
IMPORTANT NOTE: Indicate firm name, and Project number on the front of each sealed proposal envelope or package.

Direct all inquiries concerning this Bid to:

Judy Miller
Purchasing Department
501 N. West Street
Jackson, MS39201
judy.miller@dfa.ms.gov
601-359-3656

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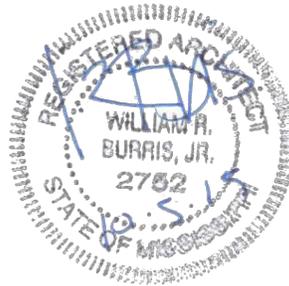
(None in this Work)

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(None in this Work)

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(None in this Work)



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Z

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(None in this Work)

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(None in this Work)

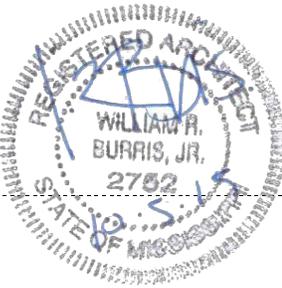
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ADVERTISEMENT FOR BIDS SECTION 00000

Sealed bids will be received at the office of the DEPARTMENT OF FINANCE & ADMINISTRATION PURCHASING AT 13TH FLOOR OF WOOLFOLK BUILDING until 2:00:00 p. m. on Wednesday, October 28, 2015

Project # 350-025	
Woolfolk Building Ninth Floor Renovation	(Project Title)
Department of Finance & Administration Capitol Facilities	(Using Agency)
501 North West Street, Jackson, Mississippi	(Location)

at which time they will be publicly opened and read. Contract Documents may be obtained from:

Judy Miller
Purchasing Department
501 N. West Street
Jackson, Mississippi 39201
Judy.miller@dfa.ms.gov
Ph. 601 359 3656

A deposit of \$ 0.00 is required. Bid preparation will be in accordance with *Instructions to Bidders* bound in the Project Manual. The Owner reserves the right to waive irregularities and to reject any or all bids. **NOTE: Telephones and desks will not be available for bidders use at the bid site.**

Director: Kevin Upchurch, Executive Director, Depart. of Finance & Administration

Dates of Publication:

September 01, 2015

September 08, 2015

INSTRUCTIONS TO BIDDERS
SECTION 00100

PART 1 - GENERAL

- 1.01 **QUESTIONS:** Questions should be directed to the Professional. Should a Bidder find discrepancies in, or omissions from, the Drawings or Project Manual, or be in doubt as to their meaning, the Bidder should immediately notify the Professional. The Professional will send written instruction(s) or interpretation(s) to all known holders of the documents. Neither the Owner, nor the Professional, will be responsible for any oral instruction or interpretation.
- 1.02 **BIDDER'S QUALIFICATIONS:**
- A. **Certificate of Responsibility:** The Mississippi State Board of Contractors is responsible for issuing Certificates of Responsibility to Contractors. To be awarded a Contract for public work, Sections 31-3-15 and 31-3-21 of the **Mississippi Code 1972, Annotated** requires a Contractor to have a current Certificate of Responsibility at bid time and during the entire length of the job. The Certificate of Responsibility number issued becomes a significant item in all public bidding.
 - B. **Bid Under \$50,000:** If a Bidder submits a bid not exceeding \$50,000, no Certificate of Responsibility number is required; however, a notation stating the *bid does not exceed \$50,000* must appear on the face of the envelope, or a Certificate of Responsibility number.
 - C. **Bid Over \$50,000:** Each Bidder submitting a bid in excess of \$50,000 must show its Certificate of Responsibility number on the bid and on the face of the envelope containing the bid.
 - D. **Joint Venture Bid:** When multiple Contractors submit a joint venture bid in excess of \$50,000, a *joint venture* Certificate of Responsibility number must be shown on the bid and on the face of the envelope containing the bid. If the Multiple-Contractor joint venture has no *joint venture* Certificate of Responsibility number, each of the Contractors participating in the bid must indicate their individual Certificate of Responsibility numbers on the bid and on the face of the envelope.
- 1.03 **NON-RESIDENT BIDDER:** When a non-resident Bidder (a Contractor whose principal place of business is outside the State of Mississippi) submits a bid for a Mississippi public works project, one of the following is required and shall be submitted with the Proposal Form:
- A. **Copy of Law:** If the non-resident Bidder's state has a resident Bidder preference law, a copy of that law shall be submitted with the Proposal Form.
 - B. **Statement:** If the state has no such law then a statement indicating *the State of (Name of State) has no resident Contractor preference law* shall be submitted with the Proposal Form.
- 1.04 **DISQUALIFICATION OF BIDDER:** A Bidder may be disqualified for any of the following reasons: (see 600.53)
- A. Failure to comply with the bid requirements.
 - B. Bidder is in arrears on existing Contracts with the Owner or another state agency.
 - C. Bidder is, or anticipates being, in litigation or arbitration with the Owner or another state agency.
 - D. Bidder has defaulted on a previous Contract.
- 1.05 **CONDITIONS OF WORK:** Each Bidder must fully inform himself of all conditions relating to the construction of the Project and employment of labor thereon. Failure to do so will not relieve a successful Bidder of obligations to furnish all material and labor necessary to carry out the provisions of the Contract. Insofar as possible, the Bidder must employ methods, or means, which will not cause interruption of, or interference with, the work of any other Bidder, or Contractor.
- 1.06 **EXAMINATION OF SITE:** All Bidders, including the general Contractor and Subcontractors, shall visit the building site, compare the Drawings and Project Manual with any work in place and be informed of all conditions. Failure to visit the site will in no way relieve the successful Bidder from furnishing any materials or performing any work required to complete work in accordance with Drawings and Project Manual without additional cost to the Owner.
- 1.07 **LAWS AND REGULATIONS:** The Bidder's attention is directed to the fact that all applicable Mississippi state laws, rules and regulations of all authorities having jurisdiction over construction of the Project apply to the Contract.

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- 1.08 **OBLIGATION OF BIDDER:** At the bid opening, each Bidder will be presumed to have inspected the site, read and become thoroughly familiar with the Drawings and the Project Manual, including all addenda.
- 1.09 **BID DOCUMENT DEPOSIT AND RETURN:** The deposit amount is indicated in the Advertisement for Bids. Upon returning the documents to the Professional within ten (10) days of the bid date and in good condition, all document holders will be refunded one-half (1/2) of the deposit. Further, any general contractor submitting a bid and all mechanical and/or electrical Subcontractors will be refunded one hundred percent (100%) of the deposit on one (1) set and fifty percent (50%) for each additional set. No partial sets of documents will be issued. Selected plan rooms will be issued one (1) set of documents without charge.

PART 2 - PROPOSAL FORM

- 2.01 **METHOD OF BIDDING:** Lump sum, single bids received on a general contract will include general, mechanical and electrical construction and all work shown on Drawings or specified in the Project Manual.
- 2.02 **PROPOSAL FORMS:** The Bidder shall make all proposals on forms provided and shall fill all applicable blank spaces without interlineations or alteration and must not contain recapitulation of the work to be done. No oral or telegraphic proposals will be considered.
- 2.03 **TIME OF COMPLETION:** The Bidder shall agree to commence work on, or before, a date specified in a written *Notice to Proceed* and fully complete the Project within the calendar days indicated on the Proposal Form.
- 2.04 **BASE BID AND ALTERNATES:**
- A. On the Proposal Form, the Bidder shall write out the Base Bid amount in words and include the numerical amount. The written word shall govern.
 - B. The Proposal Form shall contain a brief description of each alternate modifying the scope. The Bidder shall write out the amount in words and include the numerical amount for each alternate. The written word shall govern. Refer to Section 01030 entitled *Alternates* for additional information.
- 2.05 **SUBSTITUTIONS:** No substitutions, qualifications or redefining of the Specification requirements are allowed to be marked on the Proposal Form, unless specifically required by the Bid Documents. Refer to Section 01630 entitled *Substitutions and Product Options* which covers procedures after the award of Contract.
- 2.06 **ADDENDA:** Any addenda to the Drawings or Project Manual issued before or during the time of bidding shall be included in the proposal and become a part of the Contract. The Proposal Form will have ample space to indicate the receipt of addenda. When completing the Proposal Form, the Bidder shall list the Addendum number and the date received in spaces provided.
- 2.07 **BIDDER IDENTIFICATION:**
- A. **Signature:** The Proposal Form shall be signed by any individual authorized to enter into a binding agreement for the Business making the bid proposal.
 - B. **Name of Business:** The name appearing on the Proposal Form should be the complete spelling of bidder's name - exact as recorded at the Secretary of State [<http://www.sos.state.ms.us/busserv/corp/soskb/csearch.asp>] which should be the same as you applied for at the Mississippi State Board of Contractors [<http://www.msbc.us/Search2.CFM>] (see 2.07, 3.01, 5.01, proposal form)
 - C. **Legal Address:** The address appearing on the Proposal Form should be the same address exact as recorded at the Secretary of State [<http://www.sos.state.ms.us/busserv/corp/soskb/csearch.asp>] which should be the same as you applied for at the Mississippi State Board of Contractors [<http://www.msbc.us/Search2.CFM>]
 - D. **Certificate of Responsibility Number(s):** The Certificate of Responsibility Number(s) appearing on the Proposal Form should be the same number appearing in the current Mississippi State Board of Contractors Roster.
- 2.08 **BID SECURITY:** The Bid Security shall be in the form of a Bid Bond, or a Certified Check: (modified Dec 2013) (see also 4.07 herein)
- A. **Bid Bond:** The Bidder may submit a Bid Bond by a Surety licensed in Mississippi in the amount of five percent (5%) of the base bid. The Bid Bond shall be duly executed by the Bidder, a Mississippi Licensed Agent for said Surety approved by the Mississippi Insurance Department OR signed by the Surety AND countersigned by a Mississippi Licensed Agent for said Surety approved by the Mississippi Insurance Department. http://www.mid.state.ms.us/licapp/search_main.aspx (No standard form is required for the Bid Bond.)
 - B. **Certified Check:** The Bidder may submit a certified check made out to the Owner in the amount of five percent (5%) of the

base bid. All checks received from Bidders will be returned upon request, unless a Bidder is one (1) of the three (3) apparent low Bidders. The three (3) apparent low Bidder's checks will be held for forty-five (45) days, unless a Contract is awarded and executed in less time.

- 2.09 **POWER OF ATTORNEY:** Each bid security must be accompanied by an appropriate Power of Attorney. No Power of Attorney is necessary with a certified check.

PART 3 - SUBMITTING THE PROPOSAL FORM

- 3.01 **SUBMITTAL:** A bid must be delivered to the address indicated on the Advertisement for Bids prior to the time and date stated. Only one original of Bid Proposal shall be submitted which should be sealed in an opaque envelope marked, mailed or hand-delivered as follows: (beginning 1/1/09 and for a reasonable time period, a duplicate copy will not disqualify your bid, but the second copy, without comparison, will be destroyed in the bid opening, not read aloud nor used thereafter, in order to prevent inadvertent differences in the duplicate forms): (also see 600.42)

(In upper left hand corner)

Name of Firm (complete spelling of bidder's name and address – exact as recorded at the Secretary of State which should be the same as you applied for at the Mississippi State Board of Contractors – see 2.07, 3.01, 5.01)

(Bid shall be addressed and delivered to)
Judy Miller – DFA Purchasing Department
501 North West Street, Suite 1301 (Woolfolk Building)
Jackson, Mississippi 39201

(In lower left hand corner)

Bid for Project # 350-025

Title: Woolfolk Building Ninth Floor Renovation

Using Agency DFA Office of Capitol Facilities

Certificate of Responsibility # (for over \$50,000.00)

Under \$50,000.00 (add statement)

If the Bid is mailed, the bid envelope shall be placed inside a second envelope to prevent inadvertent premature opening of the Proposal.

- 3.02 **MODIFICATION TO BID:** A bidder may modify the bid prior to the scheduled closing time indicated in the Advertisement for Bids in the following manner:
- A. **Notification on Envelope:** A modification may be written on the outside of the sealed envelope containing the bid.
 - B. **Facsimile:** A facsimile (fax) will not be acceptable.
- 3.03 **WITHDRAWAL OF BID:** Any bid may be withdrawn prior to the scheduled time for opening of bids. However, bids may not be withdrawn until forty-five (45) days after bid opening.

PART 4 - BID OPENING AND AWARD OF CONTRACT

- 4.01 **OPENING OF BIDS:** Bids will be publicly opened shortly after the time stated in the Advertisement for Bids. Bidder representatives are invited; however, attendance is not mandatory.

Closure of agency preventing the opening of bids at the advertised date and time due to Force Majeure Event reasons will result in bids being publicly opened . . . on the next business day that the agency shall be open and at the previously advertised time . . . (added Jan 2015)

- 4.02 **IRREGULARITIES:** The omission of any information requested on the Proposal Form may be considered as an informality, or irregularity, by the awarding public body when in their opinion the omitted information does not alter the amounts contained in the submitted bid proposal, or place other Bidders at a disadvantage.
- 4.03 **PROTEST:** Any protest must be delivered in writing to the Owner within twenty-four (24) hours after the bid opening.

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- 4.04 **ERRORS:** Any claim of error and request for release from bid must be delivered in writing to the Owner within twenty-four (24) hours after the bid opening. The Bidder shall provide sufficient documentation with the written request clearly proving an error was made.
- 4.05 **AWARD OF CONTRACT:** The Owner reserves the right to reject any, or all bids. A Contract will be awarded on the basis of the low base bid, or low combination of base bid and those alternates selected by the Owner in any order determined to be in the best interest of the Using Agency and which produces a total within available funds.
- 4.06 **FAILURE TO ENTER INTO A CONTRACT:** The Bidder shall forfeit the Bid Security to the Owner as liquidated damages for failure, or refusal, to execute and deliver the Contract, Bond and Certificate of Insurance within ten (10) working days after notice of the acceptance of the bid/receipt of Contracts from the Professional. (*“working” days added 11/3/10 (modified Jan 2015)*)
- 4.07 **SECURITY FOR FAITHFUL PERFORMANCE:** (modified Dec 2013) (see also 2.08)
Simultaneously, with delivery of the executed Contract, the Contractor will furnish a Surety Bond, or Bonds, as security for faithful performance, the payment of all persons performing labor on the project, and furnishing materials in connection with this Contract. The Surety on such Bond, or Bonds, will be a duly authorized surety company satisfactory to the Owner and meeting all of the following requirements:
- A. Licensed at the time of award by the State of Mississippi's Commissioner of Insurance for the purpose of providing surety. . http://www.mid.state.ms.us/licapp/search_main.aspx
 - B. Listed at the time of award in the Department of the Treasury's **Federal Register** as a company holding certificates of authority as acceptable sureties on Federal Bonds, commonly referred to as the Treasury List.
 - C. All Bonds shall be executed on the form provided in the Project Manual under Section 00600 entitled *Contract Bond*.
 - D. The Contract Bond shall be duly executed by the Bidder, a Surety licensed in Mississippi signed by a Mississippi Licensed Agent for said Surety approved by the Mississippi Insurance Department OR signed by the Surety AND countersigned by a Mississippi Licensed Agent for said Surety approved by the Mississippi Insurance Department with the name and address typed, or lettered legibly. (with embossed seal). http://www.mid.state.ms.us/licapp/search_main.aspx
 - E. All Bonds must be accompanied by an appropriate Power of Attorney dated same as Contract Bond.

X PART 5 - BIDDER'S CHECKLIST

The following checklist is for the Bidder's assistance only. It is not inclusive and **is not a part of the bid documents**; therefore, this checklist does not have to be included with the Proposal Form when submitting a bid proposal.

5.01 PROPOSAL FORM: (only one original proposal form to be submitted) (also see 3.01 and 600.42 of Manual)
Base Bid

Write in the amount of the base bid in words and numbers. The written word shall govern.

Alternates

Write in each alternates amount in words and numbers. The written word shall govern.

Addenda

Acknowledge the receipt of each addendum by writing in the number of the addendum and the date received.

Acceptance

Proposal is signed by authorized person

Name of Business - complete spelling of bidder's name and address - exact as recorded at the Secretary of State [<http://www.sos.state.ms.us/busserv/corp/soskb/csearch.asp>] which should be the same as you applied for at the Mississippi

State Board of Contractors [<http://www.msbec.us/Search2.CFM>] (see 2.07, 3.01, 5.01, proposal form)

Legal address of the business listed above (at SOS and Contractor's Board)

Correct Certificate of Responsibility Number(s) as it appears in the current Mississippi State Board of Contractors Roster

Certificate of Responsibility Number(s) on envelope (see below for on proposal form)

Base Bid is under \$50,000 and no number is required

Base Bid is under \$50,000 and the statement "bid does not exceed \$50,000" is on the outside of the sealed envelope

Base Bid is over \$50,000 and number is required

Joint Venture and *joint venture* number is required

OR Joint Venture participants' numbers are required

5.02 BID SECURITY:

Included Bid Bond

OR Included Certified Check

5.03 POWER OF ATTORNEY:

Included Power of Attorney

5.04 NON-RESIDENT BIDDER:

Attached a Copy of Non-Resident Bidder's Preference Law

OR Attached a Statement

5.05 SUB-CONTRACTORS NAME Refer to 1.04 for responsiveness (modified Dec 2013)

List ~~your~~ any Mechanical, Plumbing, and/or Electrical Sub-Contractors regardless of cost. * List name even for under \$50,000

* Fire Protection Sprinkler Contractors do not have to be listed

* If there is a separate HVAC/Plumbing Sub-Contractor, so notate as mentioned herein

* If Mechanical, Plumbing, and/or Electrical Sub-Contractor is performed by the General, be sure the General has a COR for said discipline

* If there is no Mechanical, Plumbing, and/or Electrical Sub-Contractor listed, then use of Sub-Contractor to perform such scope will not be permitted.

5.06 SUB-CONTRACTORS' COR NUMBER Refer to 1.04 for responsiveness (modified Dec 2013)

* List Certificate of Responsibility Number for any listed Sub-Contractor over \$50,000.00

* If under \$50,000 – so notate on the COR line "under \$50,000" (or can still show COR#)

***** END OF SECTION *****

**PROPOSAL FORM
SECTION 00300**

To: Owner

Re: Project # GS # 350-025
 Project Title Woolfolk Building Ninth Floor Renovation
 Location Woolfolk Building 501 North West Street, Jackson, MS

I propose to complete all work in accordance with the Project Manual and Drawings within 120 consecutive calendar days for the sum of: (Professional must specify number of days)

BASE BID: (Write in the amount of the base bid in words and numbers. The written word shall govern.)

_____ Dollars (\$_____)

ALTERNATES: (Write in the amount of all of the alternates in words and numbers. The written word shall govern.)

Alternate #1 () Adds () Deducts

"NOT USED"

Dollars (\$_____)

Description _____

Alternate #2 () Adds () Deducts

"NOT USED"

Dollars (\$_____)

Description _____

Alternate #3 () Adds () Deducts

"NOT USED"

Dollars (\$_____)

Description _____

Alternate #4 () Adds () Deducts

"NOT USED"

Dollars (\$_____)

Description _____

Alternate #5 () Adds () Deducts

"NOT USED"

Dollars (\$_____)

Description _____

ADDENDA ACKNOWLEDGMENT: (date below can be the date Addendum was issued OR the date Addendum was received by Bidder)

No. _____ Date _____ No. _____ Date _____

No. _____ Date _____ No. _____ Date _____

↑Complete all lines including #1↑

ACCEPTANCE:

I certify that I am authorized to enter into a binding contract, if this Proposal is accepted.

Signature _____ Date _____

Name and Title _____

Name of Business _____

Complete spelling of bidder's name and address - **exact as recorded at the Secretary of State** [<http://www.sos.state.ms.us/busserv/corp/soskb/csearch.asp>] which should be the same as you applied for at the Mississippi State Board of Contractors [<http://www.msdoc.us/Search2.CFM>] (see 2.07, 3.01, 5.01) **PLEASE LOOK IT UP at SoS. SoS rules when the 2 are different.**

Address _____ (mailing)

Address _____ (physical)

City/State/Zip Code _____ County _____

Phone _____ Fax _____ Email _____

■ Bidder's Certificate of Responsibility Numbers(s): _____

■ MINORITY BUSINESS ENTERPRISE? Yes _____ No _____ (to assist with Code 57-1-57)

■ Attach copy of Non-Resident Bidder's Preference Law (5.04 of Bidder's Checklist)

■ **Mechanical / Plumbing / Electrical Contractors:** (modified Dec 2013

Regarding said Divisions of the Specifications of the BoB Standard Form of Agreement Between The Owner and The Contractor

List any Mechanical/Plumbing and/or Electrical Sub-Contractors that will perform work of this contract. COR must be included where sub-contract exceeds \$50,000.00. If no sub-contractor is listed, and such work is within scope of contract, bidder's own COR classification(s) must be sufficient to self-perform any such work. If no sub-contractor is listed, then use of sub-contractor to perform such scope will not be permitted. This is in accordance with 5.05 and 5.06 of the Bidder's Checklist revised below.

Mechanical Contractor: _____ Certificate of Responsibility No. _____

Plumbing Contractor: _____ Certificate of Responsibility No. _____

Electrical Contractor: _____ Certificate of Responsibility No. _____

■ Mississippi Department of Agriculture & Commerce
Bureau of Plant Industry

Landscape License Number _____ MS Code 69-19-1 - 69-19-15

↑Complete for prime landscaping projects

**STANDARD FORM OF AGREEMENT BETWEEN
THE OWNER AND THE CONTRACTOR
SECTION 00500**

This Agreement made the _____ day of _____, 20____ between the Owner,
Owner

created by _____ et seq., **Mississippi Code of 1972, Annotated**, and acting for the State of Mississippi;
and between the Contractor:

Business Name _____
Address _____
City/State/Zip _____ Fax: _____ Email: _____

The Contractor is a (check and complete one of the following):

_____ CORPORATION or LLC solely organized and existing under the laws of the State of
_____ and having its principal office in _____,

(City) (County) (State)

_____ PARTNERSHIP of the following (list all partners):

_____ SOLE PROPRIETORSHIP

For the following Project:

GS# 350-025
Woolfolk Building Ninth Floor Renovation
501 North West Street, Jackson, MS 39201

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

OWNER: OWNER

CONTRACTOR:

By: _____
(Signature)

(Name and Title)

By: _____
(Signature)

(Name and Title)

APPROVED AS TO FORM:

By: _____
(Signature of Attorney)

THE OWNER AND THE CONTRACTOR AGREE AS SET FORTH IN PAGES ONE THROUGH THREE, ARTICLES ONE THROUGH FIVE, AS FOLLOWS:

ARTICLE 1: THE WORK AND CONTRACT DOCUMENTS
THE WORK

1.1.1 The Contractor will perform all the work required by the Contract Documents for the Project indicated above.

1.2 THE CONTRACT DOCUMENTS

1.2.1 The Contract Documents which constitute the entire Agreement between the Owner and the Contractor, are enumerated as follows:

1.2.2 Project Manual dated September 01, 2015

BIDDING REQUIREMENTS

- Advertisement for Bids
- Instructions to Bidders
- Proposal Form

STANDARD FORM OF AGREEMENT BETWEEN THE OWNER AND THE CONTRACTOR

CONTRACT BOND

POWER OF ATTORNEY

CERTIFICATE OF INSURANCE

CONDITIONS OF THE CONTRACT

- General Conditions
- Supplementary Conditions
- Labor Requirements
- Addenda

SPECIFICATIONS (check the specs listed on the contents and included in the manual)

- Division One: General Requirements
- Division One Supplements
- Division Two: Site Work
- Division Three: Concrete
- Division Four: Masonry
- Division Five: Metals
- Division Six: Wood and Plastics
- Division Seven: Thermal and Moisture Protection
- Division Eight: Doors and Windows
- Division Nine: Finishes
- Division Ten: Specialties
- Division Eleven: Equipment
- Division Twelve: Furnishings
- Division Thirteen: Special Construction
- Division Fourteen: Conveying Systems
- Division Fifteen: Mechanical
- Division Sixteen: Electrical
- Division Seventeen: Commissioning

1.2.3 Addenda

- Addendum No. 1, dated _____
- Addendum No. 2, dated _____
- Addendum No. 3, dated _____
- Addendum No. 4, dated _____
- Addendum No. 5, dated _____

1.2.4 Drawings dated 01 September 2015

- | | |
|--|--------------------------------|
| Sheets No. <u>TS</u> through <u>TS</u> | Sheets No. _____ through _____ |
| Sheets No. <u>1</u> through <u>1</u> | Sheets No. _____ through _____ |
| Sheets No. <u>M-1</u> through <u>M-6</u> | Sheets No. _____ through _____ |
| Sheets No. <u>E-1</u> through <u>E-4</u> | Sheets No. _____ through _____ |
| Sheets No. _____ through _____ | Sheets No. _____ through _____ |
| Sheets No. _____ through _____ | Sheets No. _____ through _____ |

1.2.5.1 Other documents, dated

ARTICLE 2: CONTRACT SUM

2.1 CONTRACT SUM

2.1.1 The Owner will pay the Contractor in current funds for the performance of the work, subject to additions and deductions by Change Order as provided in the Contract Documents, the Contract sum of _____ Dollars

(\$ _____). The Contract sum is determined as follows:

Base Bid		\$ _____
Modifications	() Adds () Deducts	\$ _____
Negotiations		\$ _____
Alternate No. _____	() Adds () Deducts	\$ _____
Alternate No. _____	() Adds () Deducts	\$ _____
Alternate No. _____	() Adds () Deducts	\$ _____
Alternate No. _____	() Adds () Deducts	\$ _____
Alternate No. _____	() Adds () Deducts	\$ _____
Total Contract Sum		\$ _____

2.2 LIQUIDATED DAMAGES

2.2.1 The stipulated liquidated damages described in Paragraph 9.11 of the *Supplementary Conditions* are in the amount of two hundred fifty Dollars (\$ 250.00) for each calendar day.

ARTICLE 3: CONTRACT TIME

3.1 TIME

3.1.1 The work to be performed under this Contract shall be commenced upon the date stated in the *Notice to Proceed*. The work is to be substantially complete, subject to approved Change Orders, no later than 120 calendar days from the date stated in the *Notice to Proceed*.

ARTICLE 4: PAYMENTS AND FINAL PAYMENTS

4.1 PROGRESS PAYMENTS

4.1.1 Based upon applications for payment submitted to the Professional by the Contractor and *Certificates for Payment* issued by the Professional, the Owner will make progress payments on account of the Contract sum to the Contractor as provided in the Contract Documents.

4.2 FINAL PAYMENT

4.2.1 Final payment constituting the entire balance of the Contract sum will be paid by the Owner to the Contractor when the work has been completed, the Contract fully performed and a final Certificate for Payment has been issued by the Professional and approved by the Owner.

ARTICLE 5: MISCELLANEOUS PROVISION

5.1 DEFINITION OF TERMS

5.1.1 Terms used in this Agreement which are defined in the Conditions of the Contract will have the meanings designated in those Conditions.

5.2 CONTRACTOR'S INTEREST IN AGREEMENT

5.2.1 The Contractor will not assign, sublet, or transfer the interest in this Contract agreement without the written consent of the Owner. The Owner and Contractor hereby agree to the full performance of the covenants contained herein.

5.3 PROFESSIONAL

5.3.1 The Professional assigned to this Project is as follows:

Name: Burris & Wagnon Architects together with the Director of Capitol Facilities
Address: c/o Judy Miller, 501 North West Street, Suite 1301, Jackson, MS 39201
Telephone: 601 359 3656 Fax Number: 601 359 2405 E-Mail Address: Judy.Miller@dfa.ms.gov

*** END OF SECTION *****

**CONTRACT BOND
SECTION 00600**

I. PREAMBLE

KNOW ALL MEN BY THESE PRESENTS: THAT _____,
Principal, a _____, residing
at _____, authorized to do business in the State of Mississippi
under the laws thereof, and _____ Surety, a corporation of the State
of _____, authorized to do business in the State of Mississippi under the laws thereof, are held and
firmly bound unto the Owner of the State of Mississippi, Obligee, hereinafter referred to as "Owner," for the use and benefit of the Owner and
those claimants and others set forth herein below and described in Sections 31-5-51 and 31-5-3, **Mississippi Code of 1972, Annotated**, as
amended, in the amount of _____
_____ Dollars (\$_____), lawful
money of the United States, for the payment whereof Principal and Surety bind themselves, their heirs, executors, administrators,
successors and assigns, jointly and severally, firmly by these present.

WHEREAS, Principal has by written agreement dated _____, 20_____, entered into a Contract with
the Owner for the following:

as provided in said Contract and in accordance with the Contract Documents. All of the terms and provisions of the above mentioned
Contract, drawings, Project Manual, and addenda are by reference made a part hereof and fully incorporated herein, and are hereinafter
referred to as "the Contract." All of the terms and provisions of Sections 31-5-51, 31-5-3, supra, Section 31-5-53 of the **Mississippi Code of
1972, Annotated**, as amended, and all other code sections cited herein are also by reference made a part hereof and fully incorporated
herein.

II. PERFORMANCE BOND

NOW, THEREFORE, the condition of this Performance Bond is such that if Principal shall promptly and faithfully perform said Contract, then
this obligation shall be null and void; otherwise, it shall remain in full force and effect, subject however, to the following conditions:

Whenever the Owner has performed its obligation but the Principal has defaulted under the terms of the Contract, or any portion thereof,
and the Owner has declared the Principal to be in default, the Surety shall promptly:

1. Remedy the default, or
2. Complete the Contract in accordance with its terms and conditions, or
3. Procure the completion of the Contract in accordance with its terms and conditions.

Even if there should be a succession of defaults, the Surety is responsible for completion of the Contract. The Surety shall provide sufficient
funds to pay the cost of completion of the Contract in its entirety including other costs and damages for which the Surety may be liable
thereunder, less the balance of the Contract price. The term "balance of the Contract price," as used in this paragraph, shall mean the total
amount payable by Owner to Principal under the Contract and any Change Orders thereto, less the amount paid by Owner to Principal.

III. LABOR AND MATERIAL PAYMENT BOND

NOW, THEREFORE, the condition of this Labor and Material Payment Bond is such that if Principal shall promptly make payments to all
persons supplying labor or material used in the prosecution of the work under said Contract, then this obligation shall be null and void;
otherwise, it shall remain in full force and effect; however, the Owner shall not be liable for the payment of any costs or expenses of any suit
described in Subsection (2) of Section 31-5-51, supra.

IV. BOND FOR PAYMENT OF TAXES AND OTHER ASSESSMENTS

NOW THEREFORE, the condition of this Bond for Payment of Taxes and Other Assessments is such that if Principal shall promptly make payment of all taxes, licenses, assignments, contributions, damages, penalties, and interest thereon, when and as the same may lawfully be due the State of Mississippi, or any County, Municipality, Board, Department, Commission, or political subdivision thereof, by reason of and directly connected with the performance of said Contract or any part thereof as provided by Sections 27-65-1, 27-65-21, 27-67-1, and 31-5-3, **Mississippi Code 1972, Annotated**, or any other applicable statute or other authority, then this obligation shall be null and void; otherwise, it shall remain in full force and effect.

V. GENERAL CONDITIONS

The following conditions apply to all three (3) of the above-mentioned Bonds:

1. The Performance Bond is for an amount equal to the full amount of said Contract.
2. The Labor and Material Payment Bond is for an amount equal to the full amount of said Contract.
3. If any changes are made in the work, or any extensions of time are granted, or any increases in the total dollar amount of the Contract are made, such changes, extensions, increases, or other forbearance on the part of either the Owner or the Principal will not, in any way, release the Principal and Surety, or either of them, from their liability hereunder, or any portion thereof, notice to the Surety of any such change, extension, increase, or forbearance being expressly waived.
4. These Bonds are governed by and shall be construed in accordance with Mississippi law. Any inconsistency with these Bonds and any provision of Mississippi law shall be remedied by deleting the inconsistent portion of these Bonds and leaving the remaining consistent portions in full force and effect.

Signed and sealed this _____ day of _____, 20_____.

SURETY _____

By: _____
(Signature)

Attorney-in-Fact
(Typed Name) (Title)

(Surety Address)

(Surety City/State/Zip/Phone)

COUNTERSIGNED:

MISSISSIPPI LICENSED AGENT COMPANY NAME

(Signature)

Licensed Mississippi Agent
(Typed Name) (Title)

(MS Licensed Agent Address)

(MS Licensed Agent City/State/Zip/Phone)

PRINCIPAL _____

By: _____
(Signature)

(Typed Name and Title)

(Address)

(City/State/Zip/Phone)

Surety Company, Surety Agent's Name, Address, etc. should be typed and with seal (preferably embossed seal) on Bond and P/A. The P/A should be for the Attorney-in-Fact with seal (preferably embossed seal).

The Contract Bond shall be duly executed by the Bidder AND a MS Licensed Agent said Surety approved by the MS Ins Dept
OR
signed by the Surety's Agent AND countersigned by a MS Licensed Agent for said Surety approved by the MS Ins Dept.

Countersignature can be the same as the Attorney-in-Fact when the Attorney-in-Fact is licensed in Mississippi. Countersignature will be different when the Attorney-in-Fact is "not" licensed in Mississippi. P/A will be for the Attorney-in-Fact.

Check the Surety Company AND the Surety Agent
AND/OR the Countersignature at MS Ins Dept web:
http://www.mid.ms.gov/licapp/search_main.aspx

Easier to locate Agent at MID when name agrees with MID licensed name.)

(Bond Agent MID or Code requirements are different from the Ins Cert Agent MID or Code requirements.)

SECTION 00650

**STANDARD CONSTRUCTION CONTRACT
CERTIFICATE OF INSURANCE**

This certificate of insurance neither affirmatively nor negatively amends, extends, or alters the coverage afforded by the policies below.

INSURED: (Contractor's Name & Address)				COMPANIES PROVIDING COVERAGE w/ MID Lic or NAIC #		
				A		
PROJECT: (Number, Name & Location)				B		
				C		
				D		
OWNER: Owner				E		
				F		
				G		
Companies above must be approved by the MS Ins Dept at http://www.mid.ms.gov/licapp/search_main.aspx per Code & WComp at http://www.mwcc.ms.gov/						
Type Insurance	Co	Policy Number	Policy Period	Coverage and Minimum Amount		
General Liability Commercial General Liability				General Aggregate	\$ 1,000,000	
				Products Comp/Ops (Aggregate	\$ 1,000,000	
				Personal Injury (Per Occurrence)	\$ 500,000	
				BI & PD (Per Occurrence)	\$ 500,000	
				Fire Damage (Per Fire)	\$ 50,000	
				Medical Expense (Per Person)	\$ 5,000	
Owners/Contractors Protective Liability				General Aggregate	\$ 1,000,000	
				Per Occurrence	\$ 500,000	
Automobile Liability				Bodily Injury/Property Damage Combined Single Limit (Per Occurrence)	\$ 500,000	
				OR	Bodily Injury (Per Person)	\$ 250,000
					Bodily Injury (Per Accident)	\$ 500,000
				Property Damage (Per Occurrence)	\$ 100,000	
* Excess Liability (Umbrella on projects over \$500,000)				Aggregate	\$ 1,000,000	
				Per Occurrence	\$ 1,000,000	
Workers' Compensation (As required by Statute) Employers' Liability				Accident (Per Occurrence)	\$ 100,000	
				Disease-Policy Limit	\$ 500,000	
				Disease-Per Employee	\$ 100,000	
Property Insurance (not required when project is demolition ONLY - required for ALL other projects including paving)				OR	Builders' Risk	Must be equal to Value of Work
					Installation Floater	
Other						
Certification: I certify that these policies (subject to their terms, conditions and exclusions) have been (1) issued to the Insured for the coverages and at least the amounts as indicated by companies licensed in Mississippi; (2) countersigned by a Mississippi Licensed Agent; and (3) endorsed to require the company to give thirty (30) days written notice to the Owner prior to cancellation or non-renewal of above.						
Producing Agent: (Name, Address and Telephone)						
				(Signature)		
				(Date)		
				(Name and Title of Authorized Representative) (typed)		
Agent must be approved by the MS Ins Dept http://www.mid.ms.gov/licapp/search_main.aspx						

Check if Mississippi Licensed Agent
 OR Countersign by Mississippi Licensed Agent MID Lic # _____

CERTIFICATE OF INSURANCE INSTRUCTIONS
SECTION 00650

1. The *Certificate of Insurance* is a tabulation of insurance required for this Project as specified in Article 11 entitled *Insurance and Bonds* in the General Conditions (AIA Document A201, Sixteenth Edition, 2007).
2. The *Certificate of Insurance* must be completed, certified by the original signature of a Mississippi Licensed Insurance Agent and/or countersignature, dated, and bound in each set of the Contract Documents. Insurance Companies providing coverage and Agent and/or Countersignature Agent must be approved by the Mississippi Insurance Department on their web at http://www.mid.ms.gov/licapp/search_main.aspx. (Agent does not have to be on the MID web “for providers necessarily” – but must be an approved Agent on MID web. Easier to locate Agent at MID when name agrees with MID licensed name.)
3. Indicate Insured, Project, Companies providing coverage, policy numbers and policy periods in the blanks as applicable.
4. If the "OWNERS/CONTRACTORS PROTECTIVE LIABILITY" insurance is part of the Commercial General Liability Insurance Policy, or included by endorsement, indicate the policy number and period of the CGL policy in the "OWNERS/CONTRACTORS PROTECTIVE LIABILITY" blank spaces.
5. Automobile Liability Insurance may be provided which covers Bodily Injury and Property Damage in one (1) Combined Single Limit, or may be provided with separate minimum limits as shown on the Certificate of Insurance and specified in Article 11 of the Supplementary Conditions. The person signing the Certificate of Insurance should show which option the Contractor has selected by marking out the coverage that is not provided under the policies indicated.
6. OTHER INSURANCE (if required) will be indicated by typing in the "OTHER" block and detailed in Article 11 of the Supplementary Conditions.
7. CERTIFICATION wording may not be changed without specific written approval from the Owner.
8. "Riders", Binders, TBA, TBD, or other unsolicited attachments, are not allowed as part of the *Certificate of Insurance* unless specifically requested in writing by the Owner, or specified as part of the requirements for this Project.
9. CAUTION: The *Certificate of Insurance* is intended to be used for all Projects. The Contractor must provide all insurance specified in the Contract Documents for this Project, whether indicated on this form, or not. The Contractor must verify all insurance has been provided as required.
10. In accepting the Insurance Certificate by Owner, it would be helpful if some indication is given when, and if, the Provider is a Surplus Line Carrier, a Broker, or Self Insured (because they may not be on the MID web list referenced herein). (The Owner will have to ask MID (or know) at some point.)
11. The Workers Comp insurance provider must be approved and show up on the Workers Comp web at [http://www.mwcc.state.ms.us/ Services / Proof of Coverage Inquiry / accept / etc.](http://www.mwcc.state.ms.us/Services/ProofofCoverageInquiry/accept/) and at the last step – enter the “contractor’s name”.

Note: Regarding #2 and #11. At the MID web – you enter the Surety Company / Provider / Agent. At the MWCC web – you enter the Vendor’s name, then click on the policy number to see the MWCC Ins Provider.

*** END OF SECTION ***

**GENERAL CONDITIONS
SECTION 00700**

PART 1 - GENERAL

1.01 DESCRIPTION

- A. **SCOPE:** The **General Conditions of the Contract for Construction**, AIA Document A201, Sixteenth Edition, 2007, Articles 1 through 15 inclusive, is a part of this Contract and is incorporated herein.
- B. **BIDDING COPY:** For the purpose of bidding, Contractors are presumed to be familiar with AIA Document A201, a copy of which may be obtained from the Professional, or examined in the Professional's office.

***** END OF SECTION *****

2007 SUPPLEMENTARY CONDITIONS

SECTION 00800

PART 1 – GENERAL

(includes Sept-Dec 2013 modifications
from the prior Addendum 1 = 1.5.3,
3.4.4, 3.4.5, 3.4.6, 3.18.3, 9.3.1.3, 9.6.9

1.01 DESCRIPTION

- A. **Owner:** These supplements are necessary because the Owner is an agency, or political subdivision, of the State of Mississippi and occupies a different position from that of the usual Owner.
- B. **Document:** The following supplements modify, change, delete from, or add to the **General Conditions of the Contract**, AIA Document A201, Sixteenth Edition, 2007. When any Article of the **General Conditions** is modified, or deleted, by these *Supplementary Conditions*, the unaltered provisions of that Article, Paragraph, Subparagraph, or Clause will remain in effect.

Article 1 GENERAL PROVISIONS

1.1 BASIC DEFINITIONS

- 1.1.1 **The Contract Documents:** Delete the last sentence of this Subparagraph and substitute the following sentence:

The Contract Documents include the Advertisement for Bids, Instructions to Bidders, Proposal Form, sample forms and all portions of addenda issued prior to execution of the Contract.

- 1.1.9 Add a new Subparagraph as follows:

COMMISSIONING AUTHORITY PROFESSIONAL

A professional independent of the project engineer or architect retained by the owner who manages a quality focused process for enhancing the delivery of the project. The process focuses upon verifying and documenting that the facility and all of its systems are planned, designed, installed, tested, operated, and maintained to meet the Owner's project requirements.

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

- 1.5.1 Add a new sentence at the end of this Subparagraph:

This Paragraph in no way supersedes the Owner's document rights set forth in the Agreement Between the Owner and the Professional.

- 1.5.3 Add a new Subparagraph as follows: (Added Sept-Dec 2013)

Transparency. In accordance with the Mississippi Accountability and Transparency Act of 2008, §27-104-151, et seq., of the Mississippi Code of 1972, as Amended, the American Accountability and Transparency Act of 2009 (P.L. 111-5), where applicable, and §31-7-13 of the Mississippi Code of 1972, as amended, where applicable, a fully executed copy of this agreement shall be posted to the State of Mississippi's accountability website at: <https://www.transparency.mississippi.gov>

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Article 2
OWNER

2.1 GENERAL

2.1.1 Change this Subparagraph to read as follows:

The Owner, as used in these Documents, refers to the Owner, acting for and on behalf of the State of Mississippi and for the benefit of the Institution, Agency, or Department for which the Work under this Contract is being performed. The Owner is the entity identified as such in the Agreement and is referred to throughout the Contract Documents as if singular in number. The Owner's representative, who shall have express authority to bind the Owner with respect to all matters requiring the Owner's approval or authorization, is the individual who signed

the Construction Contract for the Owner. Except as otherwise provided in Subparagraph 4.2.1, the Architect does not have such authority. The term "Owner" means the Owner or the Owner's authorized representative.

2.2 INFORMATION AND SERVICES REQUIRED OF THE OWNER

2.2.5 Change this Subparagraph to read as follows:

Unless otherwise provided in the Contract Documents, the Contractor will be furnished, free of charge, such copies of Drawings and Project Manuals as are reasonably necessary, but in no instance to exceed twenty-five (25) copies, for the execution of the Work.

Article 3
CONTRACTOR

3.3 SUPERVISION AND CONSTRUCTION PROCEDURES

3.3.1 Change the last sentence to read as follows:

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 and Architect shall be responsible for any resulting loss or damage.

3.4 LABOR AND MATERIALS

3.4.4 Modify the Subparagraph as follows: (Modified Sept-Dec 2013)

Employee Status Verification System *If applicable, the Contractor represents and warrants that it will ensure its compliance with the Mississippi Employment Protection Act, Section 71-11-1, et seq. of the Mississippi Code Annotated (Supp 2008), and will register and participate in the status verification system for all newly hired employees. The term "employee" as used herein means any person that is hired to perform work within the State of Mississippi. As used herein, "status verification system" means the Illegal Immigration Reform and Immigration Responsibility Act of 1996 that is operated by the United States Department of Homeland Security, also known as the E-Verify Program, or any other successor electronic verification system replacing the E-Verify Program. The Contractor agrees to maintain records of such compliance and, upon request of the State and approval of the Social Security Administration or Department of Homeland Security, where required, to provide a copy of each such verification to the State. The Contractor further represents and warrants that any person assigned to perform services hereunder meets the employment eligibility requirements of all immigration laws of the State of Mississippi. The Contractor understands and agrees that any breach of these warranties may subject the Contractor to the following: (a) termination of this Agreement and ineligibility for any state or public contract in Mississippi for up to three (3) years, with notice of such cancellation/termination being made public, or (b) the loss of any license, permit, certification or other document granted to the Contractor by an agency, department or governmental entity for the right to do business in Mississippi for up to one (1) year, or (c) both. In the event of such cancellation/termination, the Contractor would also be liable for any additional costs incurred by the State due to the contract cancellation or loss of license or permit.*

3.4.5 Add a new Subparagraph as follows: (Modified Sept-Dec 2013)

In providing labor for the proper execution and completion of the Work, the Contractor shall comply with the provisions of Section 31-5-17 and Section 31-5-19 of the Mississippi Code of 1972, Annotated.

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3.4.6 Add a new Subparagraph as follows: (Modified Sept-Dec 2013)

In providing materials for the proper execution and completion of the Work, the Contractor shall comply with the provisions of Section 31-5-23 of the Mississippi Code of 1972, Annotated.

3.9 SUPERINTENDENT

3.9.2 Change the second line in this Subparagraph to read as follows:

The Architect shall, within a reasonable time, notify the Contractor in writing of any objection to the proposed superintendent.

3.15 CLEANING UP

3.15.2 Change this Subparagraph to read as follows:

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

3.16 ACCESS TO WORK

Change this Paragraph to read as follows:

The Contractor shall provide the Owner, Architect, Commissioning Authority Professional, and their authorized representatives access to the Work in preparation and progress wherever located.

3.18 INDEMNIFICATION

3.18.3 Modify the Subparagraph as follows: (Modified Sept-Dec 2013)

***Indemnification** To the fullest extent allowed by law, Contractor shall indemnify, defend, save and hold harmless, protect, and exonerate the State of Mississippi, its Commissioners, Board Members, officers, employees, agents, and representatives from and against all claims, demands, liabilities, suits, actions, damages, losses, and costs of every kind and nature whatsoever, including, without limitation, court costs, investigative fees and expenses, and attorneys' fees, arising out of or caused by Contractor's and/or its partners, principals, agents, employees, and/or subcontractors in the performance of or failure to perform this Agreement. In the State's sole discretion, Contractor may be allowed to control the defense of any such claim, suit, etc. In the event Contractor defends said claim, suit, etc., Contractor shall use legal counsel acceptable to the State; Contractor shall be solely liable for all reasonable costs and/or expenses associated with such defense and the State shall be entitled to participate in said defense. Contractor shall not settle any claim, suit, etc., without the State's concurrence, which the State shall not unreasonably withhold.*

Article 4
ARCHITECT

4.1 GENERAL

4.1.4 Add a new Subparagraph as follows:

The term "Architect," "Engineer," or "Professional" as used in these Documents refers to the Professional firm indicated in Paragraph 5.3.1 of the Standard Form of Agreement Between the Owner and the Contractor who has been directed by the Owner to design and inspect construction of this Project.

4.2 ADMINISTRATION OF THE CONTRACT

4.2.1 Change the first line of this Subparagraph to read as follows:

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The Architect will provide administration of the Contract as described in the Contract Documents, and will be the Owner's representative (1) during construction, (2) until the final payment is due and (3) with the Owner's concurrence, from time to time during the one year period for correction of Work described in Section 12.2.

Article 5
SUBCONTRACTORS

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

5.2.1 Change the first line of this Subparagraph to read as follows: (modified Jan 2015) (see also 600.55; Div 1-01010.1.01.F)

Unless otherwise stated in the Contract Documents or the bidding requirements, the Contractor, prior to award of the Contract by the Owner, shall furnish in writing to the Owner through the Professional, the names, disciplines, and COR #'s of Sub-Contractors over Fifty Thousand Dollars (\$50,000.00) (as well as entities who are to furnish materials or equipment fabricated to a special design) proposed for each principal portion of the Work. Such list shall also include any Mechanical, Plumbing, or Electrical Sub-Contractor listed on Proposal Form regardless of amount.

Article 6
CONSTRUCTION BY OWNER OR BY SEPARATE CONTRACTORS

No supplementary conditions.

Article 7
CHANGES IN THE WORK

7.2 CHANGE ORDERS

7.2.2 Add a new Subparagraph as follows:

The maximum cost included in a Change Order for profit and overhead is limited to twenty percent (20%) of the total of the actual cost for materials, labor and subcontracts. Profit and overhead include: all taxes, fees, permits, insurance, bond, job superintendent, job and home office expense. All Subcontractors shall acquiesce to the same requirements when participating in a Change Order.

7.3 CONSTRUCTION CHANGE DIRECTIVES

7.3.9 Delete this Subparagraph in its entirety.

Article 8
TIME

8.1 DEFINITIONS

8.1.2 Change this Subparagraph to read as follows:

The date of commencement of the Work is the date established in the Notice to Proceed.

8.3 DELAYS AND EXTENSIONS OF TIME

8.3.1 Change this Subparagraph to read as follows:

If the Contractor is delayed at any time in the commencement or progress of the Work by any act of neglect of the Owner or the Architect, or by any employee of either, or by changes ordered in the Work, or by labor disputes, fire, unusual delay in

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deliveries, unavoidable casualties or any causes beyond the Contractor's control, or by any other causes which the Architect determines may justify the delay, then the Contract Time may be extended by Change Order for such reasonable time as the Architect may determine, subject to the Owner's approval. Any claim for loss or any delay occasioned by any separate Contractor, or Subcontractor, shall be settled between the Contractor and such other separate Contractor, or Subcontractors.

Article 9
PAYMENTS AND COMPLETION

9.2 SCHEDULE OF VALUES

Change this Paragraph to read as follows:

Where the Contract is based on a stipulated sum, the Contractor shall submit to the Architect, at least 10 days 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 or Owner, shall be used as a basis for reviewing the Contractor's Applications for Payment.

9.3 APPLICATIONS FOR PAYMENT

9.3.1 Add a new sentence to the end of this Subparagraph:

The form of Application for Payment will be AIA Document G702, Application and Certification for Payment, supported by AIA Document G703, Continuation Sheet, or a computer generated form containing similar data.

9.3.1.1 Delete this Subparagraph in its entirety.

9.3.1.3 Add a new Clause to Subparagraph 9.3.1 as follows: (see also Manual 700.28) (modified Sept-Dec 2013)

On any contract as described herein, of which the total amount is Two Hundred Fifty Thousand Dollars (\$250,000.00) or greater, or on any contract with a subcontractor, regardless of amount, five percent (5%) shall be retained until the Work is at least fifty percent (50%) complete, on schedule and satisfactory in the architect's and/or engineer's opinion, at which time fifty percent (50%) of the retainage held to date shall be returned, subject to consent of surety, to the prime contractor for distribution to the appropriate subcontractors and suppliers; provided, however, that future retainage shall be withheld at the rate of two and one-half percent (2 1/2%). When submitting request for reduction in retainage, the Contractor will include, with the application, a Consent of Surety to Reduction which is AIA Form G707A, and a Power of Attorney.

9.3.1.4 Add a new Clause to Subparagraph 9.3.1 as follows:

The Contractor must submit each month with this Application for Payment a separate letter stating that he is requesting an extension of time or that he had no need for an extension for that period of time. No payment on a monthly application will be considered due and payable until the letter is received. Complete justification such as weather reports or other pertinent correspondence must be included for each day's request for extension. A Contractor's letter, or statement, will not be considered as adequate justification. The receipt of this request and data by the Owner will not be considered as Owner approval in any way.

9.3.2.1 Add a new Clause to Subparagraph 9.3.2 as follows:

Payment on materials stored at some location other than the building site, may be approved by the Architect and the Owner after the Contractor has submitted the following items:

.1 An acceptable Lease Agreement between the General Contractor and the owner of the land, or building, where the materials are stored covering the specific area where the materials are located.

Division 0

-
- .2 Consent of Surety, or other acceptable Bond, to cover the materials stored off-site.
 - .3 All Perils Insurance coverage for the full value of the materials stored off-site.
 - .4 A Bill of Sale from the Manufacturer to the General Contractor for the stored materials.
 - .5 A complete list and inventory of materials manufactured, stored and delivered to the storage site and of materials removed from the storage site and delivered to the job site.
 - .6 A review by the Architect of the materials stored off-site prior to release of payment.
 - .7 Guarantee no storage costs, additional delivery fees, or subsequent costs to the Owner.

9.5 **DECISIONS TO WITHHOLD CERTIFICATION**

9.5.3 Delete this Subparagraph in its entirety.

9.6 **PROGRESS PAYMENTS**

9.6.2 Change the first line of this Subparagraph to read as follows:

The Contractor shall pay each Subcontractor, in accordance with Section 31-5-27 of the Mississippi Code 1972, Annotated, 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.

9.6.8 Add a new Subparagraph as follows:

The amount retained by the Contractor from each payment to each Subcontractor and material supplier will not exceed the percentage retained by the Owner from the Contractor.

9.6.8.1 Add a new Clause to Subparagraph 9.6.8 as follows:

The Contractors shall submit monthly certification, in accordance with Section 31-5-25 of the Mississippi Code 1972, Annotated, on Owner's "Affidavit Certifying Payment to All Subcontractors" form, to the project engineer or architect indicating payments to subcontractors on prior payment request. (attached as Exhibit "A" at the end of Division 0 Section 00800 herein)

9.6.9 Modify the Subparagraph as follows: (Modified Sept-Dec 2013; SAAS modified 092414)

The DFA agrees to make payment in accordance with Mississippi law on "Timely Payments for Purchases by Public Bodies", Section 31-7-301, et seq. of the Mississippi Code of 1972, as amended, which generally provides for payment of undisputed amounts within forty-five (45) days of receipt of the invoice. The State requires the Contractor to submit invoices electronically throughout the term of the agreement. Vendor invoices shall be submitted to the state agency using the processes and procedures identified by the State. Payments by state agencies using the statewide electronic payment and remittance vehicle shall be made and remittance information provided electronically as directed by the State. These payments shall be deposited into the bank account of the Contractor's choice. Contractor understands and agrees that the State is exempt from the payment of taxes. All payments shall be in United States currency. No payment, including final payment, shall be construed as acceptance of defective or incomplete work, and the Contractor shall remain responsible and liable for full performance.

9.7 **FAILURE OF PAYMENT**

Change this Paragraph to read as follows:

The Contractor and the Owner shall be subject to the remedies as prescribed in Section 31-5-25 of the Mississippi Code 1972, Annotated.

9.8 **SUBSTANTIAL COMPLETION**

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9.8.1 Add the following sentence to the end this Subparagraph to read as follows:

Commissioning requirements must be complete except for thermographs of electrical systems, trend log monitoring, seasonal testing, near-warranty end activities and verification of training sessions.

9.8.4 Change the first line this Subparagraph to read as follows:

When the Work or designated portion thereof is substantially complete and affirmed by the Owner, 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.

9.10 **FINAL COMPLETION AND FINAL PAYMENT**

9.10.1 Change this Subparagraph to read as follows:

When, in the opinion of the Contractor, the Work is ready for final inspection and acceptance by the Owner, the Contractor shall make such notice to the Architect in writing.

- 1. Upon receipt of the Contractor's written notice that the Work is ready for final inspection and acceptance by the Owner, the Architect will promptly inspect the Work and compile a list of deficiencies. If, in the Architect's judgment, the Work is not ready for inspection, another inspection will be scheduled.*
- 2. Once the Architect has made inspection and all deficiencies listed by the Architect have been corrected and the Architect determines the Work is ready for final inspection, the Architect will call for final inspection of the Project with the Owner for the purpose of determining whether the Work is acceptable under the Contract Documents.*
- 3. The final inspection shall be conducted in the presence of the Owner and a list of defects or discrepancies, if any, will be compiled into a punch list furnished to all parties.*
- 4. Once corrections of all punch list items have been confirmed by the Architect, the Architect will provide a letter recommending final acceptance of the Work to the Owner.*

9.10.2 Change this Subparagraph to read as follows:

Neither final payment nor any remaining retained percentage shall become due until the Contractor submits to the Architect (1) final application for payment, (2) consent of surety to final payment, (3) power of attorney, (4) Contractor's affidavit of release of liens, (5) Contractor's affidavit of payment of debts and claims, (6) Contractor's guarantee of work, (7) Project Record Documents and (8) certificates, warranties, guarantees, bonds or documents as called for in the individual sections of the Project Manual.

9.11 **LIQUIDATED DAMAGES**

9.11.1 Add a new Paragraph as follows:

Time being of the essence and a matter of material consideration thereof, a reasonable estimate in advance is established to cover losses incurred by the Owner if the project is not substantially complete on the date set forth in the Contract Documents. The Contractor and his Surety will be liable for and will pay the Owner the sums stipulated in Paragraph 2.2 of the Standard Form of Agreement Between the Owner and the Contractor as fixed and agreed as liquidated damages for each calendar day of delay until the work is substantially complete unless circumstances dictate otherwise in the discretion of the Owner.

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Article 10
PROTECTION OF PERSONS AND PROPERTY

10.2 SAFETY OF PERSONS AND PROPERTY

10.2.5 Change this Subparagraph to read as follows:

The Contractor shall promptly remedy damage and loss (other than damage or loss insured under property insurance required by the Contract Documents) to property referred to in Clauses 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 for Clauses 10.2.1.2 and 10.2.1.3, except damage or loss attributable to acts or omissions of the Owner or Architect 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 Paragraph 3.18.

10.3 HAZARDOUS MATERIALS

10.3.2 Delete this Subparagraph in its entirety.

10.3.3 Delete this Subparagraph in its entirety.

10.3.4 Delete this Subparagraph in its entirety.

10.3.5 Delete this Subparagraph in its entirety.

10.3.6 Delete this Subparagraph in its entirety.

Article 11
INSURANCE AND BONDS

11.1 CONTRACTOR'S LIABILITY INSURANCE

11.1.4 Delete this Subparagraph in its entirety.

11.1.5 Add a new Subparagraph as follows:

The Contractor's limits of liability shall be written for not less than the following:

.1 GENERAL LIABILITY:

*Commercial General Liability
(Including XCU)*

<i>General Aggregate.....</i>	<i>\$ 1,000,000.00 Aggregate</i>
<i>Products & Completed Operations</i>	<i>\$ 1,000,000.00 Aggregate</i>
<i>Personal & Advertising Injury.....</i>	<i>\$ 500,000.00 Per Occurrence</i>
<i>Bodily Injury & Property Damage</i>	<i>\$ 500,000.00 Per Occurrence</i>
<i>Fire Damage Liability</i>	<i>\$ 50,000.00 Per Occurrence</i>
<i>Medical Expense.....</i>	<i>\$ 5,000.00 Per Person</i>

.2 OWNERS & CONTRACTORS PROTECTIVE LIABILITY:

<i>Bodily Injury & Property Damage</i>	<i>\$ 1,000,000.00 Aggregate</i>
<i>Bodily Injury & Property Damage</i>	<i>\$ 500,000.00 Per Occurrence</i>

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.3 **AUTOMOBILE LIABILITY:**

(Owned, Non-owned & Hired Vehicles)

Contractor Insurance Option Number 1:

*Bodily Injury & Property Damage \$ 500,000.00 Per Occurrence
(Combined Single Limit)*

Contractor Insurance Option Number 2:

Bodily Injury \$ 250,000.00 Per Person

Bodily Injury \$ 500,000.00 Per Accident

Property Damage..... \$ 100,000.00 Per Occurrence

.4 **EXCESS LIABILITY:**

(Umbrella on projects over \$500,000)

*Bodily Injury & Property Damage \$ 1,000,000.00 Aggregate
(Combined Single Limit)*

.5 **WORKERS' COMPENSATION:**

(As required by Statute)

EMPLOYERS' LIABILITY:

Accident..... \$ 100,000.00 Per Occurrence

Disease \$ 500,000.00 Policy Limit

Disease \$ 100,000.00 Per Employee

.6 **PROPERTY INSURANCE:**

*Builder's Risk \$ Equal to Value of Work
or*

Installation Floater \$ Equal to Value of Work

11.1.6 Add a new Subparagraph as follows:

Furnish one (1) copy of the Standard Construction Contract Certificate of Insurance Form for each copy of the Standard Form of Agreement Between Owner and Contractor specifically setting forth evidence of all coverage required by Subparagraphs 11.1.1, 11.1.2 and 11.1.3. Furnish to the Owner copies of any endorsements that are subsequently issued amending limits of coverage.

11.1.7 Add a new Subparagraph as follows:

If the coverages are provided on a claims-made basis, the policy date or retroactive date shall predate the Contract; the termination date, or the policy, or applicable extended reporting period shall be no earlier than the termination date of coverages required to be maintained after final payment.

11.2 **OWNER'S LIABILITY INSURANCE**

Delete this Paragraph in its entirety and substitute the following:

*The Contractor shall purchase and maintain such insurance as will protect the Owner from his contingent liability to others for damages because of bodily injury, including death, and property damage, which may arise from operations under this Contract and other liability for damages which the Contractor is required to insure under any provision of this Contract. Certificate of this insurance will be filed with the Owner and will be the same limits set forth in 11.1.*5.*

11.3 **PROPERTY INSURANCE (BUILDER'S RISK OR INSTALLATION FLOATER)**

11.3.1 Change the first line in this Subparagraph to read as follows:

The Contractor shall purchase....

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11.3.1.2 Delete this Clause under Subparagraph 11.3.1 in its entirety.

11.3.1.3 Change the following Clause in this Subparagraph to read as follows:

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

11.3.2 Delete this Subparagraph in its entirety.

11.3.3 Delete this Subparagraph in its entirety.

11.3.4 Delete this Subparagraph in its entirety.

11.3.5 Delete this Subparagraph in its entirety.

11.3.6 Delete this Subparagraph in its entirety.

11.3.10 Change this Subparagraph to read as follows:

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 (5) days after occurrence of loss.

Article 12

UNCOVERING AND CORRECTION OF WORK

No supplementary conditions.

Article 13

MISCELLANEOUS PROVISIONS

13.1 GOVERNING LAW

Change this Paragraph to read as follows:

The Contract shall be governed by the laws of the State of Mississippi.

13.5 TESTS AND INSPECTIONS

13.5.1 Change the third line of this Subparagraph by adding “*and Commissioning Authority Professional*” after each instance of the word “*Architect*”.

13.5.3 Change this Subparagraph by inserting “*and the Commissioning Authority Professional’s*” after the word “*Architect*”.

13.5.5 Change this Subparagraph by adding “*and/or the Commissioning Authority Professional*” after each instance of the word “*Architect*”.

13.7 Change this Paragraph title and contents to read as follows: (modified Sept-Dec 2013)

13.7 COMMENCEMENT OF STATUTORY LIMITATION PERIOD

13.7.1 *The Owner and Contractor shall commence all claims and causes of action within the time period specified by applicable state law.*

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Article 14
TERMINATION OR SUSPENSION OF THE CONTRACT

No supplementary conditions.

Article 15
CLAIMS AND DISPUTES

15.2 INITIAL DECISION

15.2.1 Change this Subparagraph to read as follows:

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. An initial decision by the Initial Decision Maker shall be required as a condition precedent to arbitration or litigation of all Claims between the Contractor and Owner arising prior to the date final payment is due, unless 30 days have passed after the Claim has been referred to the Initial Decision Maker with no decision having been rendered by the Initial Decision Maker. The Initial Decision Maker will not decide disputes between the Contractor and persons or entities other than the Owner.

15.2.5 Change the last line of this Subparagraph to read as follows:

The initial decision shall be final and binding on the parties but subject to arbitration or litigation.

15.2.6 Delete this Subparagraph in its entirety.

15.2..6.1 Delete this Clause in its entirety.

15.3 MEDIATION

15.3.1 Delete this Subparagraph in its entirety.

15.3.2 Delete this Subparagraph in its entirety.

15.3.3 Delete this Subparagraph in its entirety.

15.4 ARBITRATION

15.4.1 Delete this Subparagraph in its entirety.

15.4.1.1 Delete this Clause in its entirety.

15.4.1.2 Delete this Clause in its entirety.

15.4.2 Delete this Subparagraph in its entirety.

15.4.3 Delete this Subparagraph in its entirety.

15.4.4 Delete this Subparagraph in its entirety.

15.5 Add a new Paragraph as follows:

ARBITRATION PROCEDURES FOR THE OWNER

All matters of dispute arising out of any agreement with the Owner for planning, design, engineering, construction, erection, repair, or alteration of any building, structure, fixture, road, highway, utility or any part thereof, or any agreement with the

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Owner for architectural, engineering, surveying, planning, and related professional services which provides for mediation or arbitration, shall comply with the following course for resolution. No arbitration hearing shall be granted on any claim in excess of One Hundred Thousand Dollars (\$100,000.00).

15.5.1 Add a new Subparagraph as follows:

CONDITIONS PRECEDENT TO ARBITRATION

.1 The aggrieved party must first notify opposing party in writing in detail of the matter(s) in dispute the amount involved and the remedy sought. Such writing shall include copies of any documents, writings, plans, or other matter pertinent to the resolution of the dispute. The Head of the Owner's Agency and a principal of the opposing party shall be the proper parties for such notice and shall be active parties in any subsequent dispute resolution.

.2 If the dispute cannot be satisfactorily resolved, within thirty (30) days of the complaint being rejected in writing by either party, notice by certified mail shall be given to the Deputy Director of the Owner. A copy of the notice shall be sent by certified mail to the opposing party. Such notice shall be in writing setting forth in detail the matter(s) in dispute, the amount involved, the remedy sought and state that informal resolution between the parties cannot be reached. Such writing shall include copies of any documents, writings, plans, or other matter pertinent to the resolution of the dispute. Opposing party shall have the opportunity to set forth in writing a rebuttal with pertinent documents attached. At the sole discretion of the Deputy Director, oral testimony may be had on the matter.

15.5.2 Add a new Subparagraph as follows:

REQUESTS FOR ARBITRATION: Within thirty (30) days of a claim being rejected in writing by the Deputy Director of the Owner, either party may request arbitration. Notices for requests for arbitration shall be made in writing to the Head of the Owner's Agency. Such notice shall set forth in detail the matter(s) in dispute, the amount involved, and the remedy sought. A copy of the request shall be mailed to the opposite party. The party requesting arbitration must deposit the sum of two hundred (\$200.00) with its request as a deposit against costs incurred by the arbitrators. Each party will be notified in writing in any manner provided by law of certified mail not less than twenty (20) days before the hearing of the date, time and place for the hearing. Appearance at the hearing waives a party's right to notice.

15.5.3 Add a new Subparagraph as follows:

SELECTION OF ARBITRATORS: Upon request for arbitration, a panel of three (3) arbitrators shall be chosen. One (1) member shall be appointed by the Head of the Owner's Agency. One (1) member shall be appointed by the executive director of a professional or trade association which represents interests similar to that of the non-state party. The third member shall be appointed by the first two.

15.5.4 Add a new Subparagraph as follows:

HEARINGS: All hearings shall be open to the public. All hearings will be held in Jackson, Mississippi, unless another location is mutually agreed to by the parties. The hearings shall be conducted as prescribed by **Mississippi Code 1972, Annotated**, Sections 11-15-113, 11-15-115, and 11-15-117. A full and complete record of all proceedings shall be taken by a certified court reporter. The scheduling and cost of retaining the court reporter shall be the responsibility of the party requesting arbitration. The costs of transcription of the record shall be the responsibility of the party requesting such transcript. No arbitration hearing shall be held without a certified court reporter. Deliberations of the arbitrators shall not be part of the record.

15.5.5 Add a new Subparagraph as follows:

AWARDS: Awards shall be made in writing and signed by the arbitrators joining in the award. A copy of the award shall be delivered to the parties by certified mail.

15.5.6 Add a new Subparagraph as follows:

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FEES AND EXPENSES: Reasonable fees and expenses, excluding counsel fees, incurred in the conduct of the arbitration shall be at the discretion of the Arbitrator except each party shall bear its own attorney's fees and costs of expert witnesses.

15.5.7 Add a new Subparagraph as follows:

MODIFICATIONS, CONFIRMATIONS, AND APPEALS: All modifications, confirmations and appeals shall be as prescribed by **Mississippi Code 1972, Annotated, Section 11-15-123 et seq.** All awards shall be reduced to judgment and satisfied in the same manner other judgments against the State are satisfied.

15.5.8 Add a new Subparagraph as follows:

SECRETARY FOR THE ARBITRATORS: All notices, requests, or other correspondence intended for the arbitrators shall be sent to the Head of the Owner's Agency.

**AFFIDAVIT CERTIFYING
PAYMENT TO ALL SUBCONTRACTORS**

I acknowledge that, pursuant to Miss. Code Ann. §31-5-25 and H.B. 1562, Laws of 2002, that I am required to submit monthly certification indicating payments to subcontractors on prior payment requests. I, the undersigned Contractor, do hereby certify that I have paid the following amounts to subcontractors for Work which has been performed and incorporated into previous Applications for Payment which were issued and payment received from the Owner on the project listed below. I understand that this document must be submitted on a monthly basis after the submittal, approval and payment of Application for Payment #1. I understand that the Owner reserves the right to require me, the undersigned, to provide verification of payment and/ or additional information.

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Section 00800 SUPPLEMENTARY CONDITIONS
Article 9.6 Progress Payments
Article 9.6.8.1

Pursuant to Code §31-5-25 and HB1562, Laws of 2002
... *Contractors shall submit monthly certification to the project engineer or architect indicating payments to subcontractors on prior payment request.* ...

Project Name and Number: _____

Using Agency: _____

Subcontractor: _____ Amount: \$ _____

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Subcontractor: _____ Amount: \$ _____

(Attach additional list of subcontractors and amounts, if necessary)

Contractor Name and Title: _____

Contractor Certificate of Responsibility Number: _____

Contractor Signature: _____ Date: _____

STATE OF MISSISSIPPI

COUNTY OF _____

SWORN TO AND SUBSCRIBED BEFORE ME, the undersigned notary public,
this the _____ day of _____, 20____.

NOTARY PUBLIC

My Commission Expires:

LABOR REQUIREMENTS

SECTION 00820

PART 1 - EQUAL OPPORTUNITY

1.01 GENERAL

The Contractor will maintain policies of employment as follows:

- A. The Contractor and all Subcontractors will not discriminate against any employee or applicant for employment because of race, religion, color, sex, national origin or age. The Contractor will take affirmative action to insure that applicants are employed and that employees are treated during employment without regard to their race, religion, color, sex, national origin, or age. Such action will include, but not be limited to the following: employment, upgrading, demotion or transfer, recruitment or recruitment advertising, layoff or termination, rates of pay or other forms of compensation, selection for training, including apprenticeship. The Contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices setting forth the policies of non-discrimination.
- B. The Contractor and all Subcontractors will, in all solicitations or advertisements for employees placed by them or on their behalf, state that all qualified applicants receive consideration for employment without regard to race, religion, color, sex, national origin or age.

PART 2 - DAVIS-BACON ACT REGULATIONS

....
....
....

5.5 CONTRACT PROVISIONS AND RELATED MATTERS

(a) 1. ~~Minimum Wages:~~ (i) All mechanics and laborers employed or working upon the site of the work, will be paid unconditionally and not less often than once a week and without subsequent deduction or rebate on any account (except such payroll deductions as are permitted by regulations issued by the Secretary of Labor under the Copeland Act, 29 CFR Part 3), the full amounts due at time of payment computed at wage rates not less than those contained in the wage determination decision of the Secretary of Labor which is attached hereto and made a part hereof, regardless of any contractual relationship which may be alleged to exist between the Contractor and such laborers and mechanics, and the wage determination decision will be posted by the Contractor at the site of the work in a prominent place where it can be easily seen by the workers. For the purpose of this clause, contributions made or costs reasonably anticipated under Section 1 (b) (2) of the Davis Bacon Act on behalf of laborers or mechanics are considered wages paid to such laborers or mechanics, subject to the provisions of 29 CFR 5.5 (a) (1) (iv). Also for the purpose of this clause, regular contributions made or costs incurred for more than a weekly period under plans, funds or programs, but covering the particular weekly period, are deemed to be constructively made or incurred during such weekly periods.

(ii) ~~The contracting officer will require that any class of laborers or mechanics, including apprentices and trainees, which is not listed in the wage determination and which is to be employed under the contract, will be classified or reclassified conformably to wage determination and a report of the action taken will be sent by the State Agency to the Secretary of Labor. In the event the interested parties cannot agree on the proper classification or reclassification of a particular class of laborers and mechanics, including apprentices and trainees to be used, the question, accompanied by the recommendation of the contracting officer, will be referred to the Secretary for final determination.~~

(iii) ~~The contracting officer will require, whenever the minimum wage rate prescribed in the Contract for a class of laborers or mechanics includes a fringe benefit which is not expressed as an hourly wage rate and the Contractor is obligated to pay a cash equivalent of such a fringe benefit, an hourly cash equivalent thereof to be established. In the event the interested parties cannot agree upon a cash equivalent of the fringe benefit, the question, accompanied by the recommendation of the contracting officer, shall be referred to the Secretary of~~

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Labor for determination.

(iv) ~~If the Contractor does not make payments to a trustee or other third person, he may consider as part of the wages of any laborer or mechanic the amount of any costs reasonably anticipated in providing benefits under a plan or program of a type expressly listed in the wage determination decision of the Secretary of Labor which is a part of this Contract. Provided, however, the Secretary of Labor has found, upon the written request of the Contractor, that the applicable standards of the Davis Bacon Act have been met. The Secretary of Labor may require the Contractor to set aside in a separate account assets for the meeting of obligations under the plan, or program.~~

2. ~~**Withholding:** The State may withhold or cause to be withheld from the Contractor so much of the accrued payments or advances as may be considered necessary to laborers and mechanics, including apprentices and trainees, employed by the Contractor or any Subcontractor on the work the full amount of wages required by the Contract. In the event of failure to pay any laborer or mechanic, including any apprentice or trainee, employed or working on the site of the work in the construction or development of the Project, all or part of the wages required by the Contract, the State may, after written notice to the Contractor, sponsor, applicant of Owner, take such action as may be necessary to cause the suspension of any further payment, advance or guarantee of funds until such violations have ceased.~~

3. ~~**Payrolls and Basic Records:** (i) Payrolls and basic records relating thereto will be maintained during the course of the work and preserved for a period of three (3) years thereafter for all laborers and mechanics working at the site of the work in the construction or development of the Project. Such records will contain the name and address of each such employee, his correct classification, rates of pay (including rates of contributions or costs anticipated of the types described in Section 1 (b) (2) of the Davis Bacon Act), daily and weekly number of hours worked, deductions made and actual wages paid. Whenever the Secretary of Labor has found under 29 CFR 5.5 (a) (1) (iv) that the wages of any laborer or mechanic include the amount of any costs reasonably anticipated in providing benefits under a plan or program described in Section 1 (b) (2) (b) of the Davis Bacon Act, the Contractor will maintain records which show that the commitment to provide such benefits is enforceable, that the plan or program is financially responsible and that the plan or program has been communicated in writing to the laborers or mechanics affected and records which show the costs anticipated or the actual cost incurred in providing such benefits.~~

(ii) ~~The Contractor will submit weekly a copy of all payrolls to the Project Architect/Engineer or will submit payrolls to the applicant, sponsor or Using Agency as the case may be, for transmission to the State. The copy will be accompanied by a statement signed by the employer or his agent indicating that the payrolls are correct and complete, that the wage rates contained therein are not less than those determined by the Secretary of Labor and that the classifications set forth for each laborer or mechanic conform with the work he performed. A submission of a "Weekly Statement of Compliance" which is required under this Contract and the Copeland regulations of the Secretary of Labor (29 DFR, Part 3) and the filing with the initial payroll or any subsequent payroll of a copy of any findings by the Secretary of Labor under 29 CFR 5.5 (a) (1) (iv) will satisfy this requirement. The Prime Contractor will be responsible for the submission of copies of payrolls of all Subcontractors. The Contractor will make the records required under the labor standards clauses of the Contract available for inspection by authorized representatives of the State and the Department of Labor, and will permit such representatives to interview employees during working hours on the job.~~

4. ~~**Apprentices and Trainees:** (i) Apprentices: Apprentices will be permitted to work as such only when they are registered individually under a bona fide apprenticeship program registered with a State apprenticeship agency which is recognized by the Bureau of Apprenticeship and Training, U.S. Department of Labor or, if no such recognized agency exists in a State, under a program registered with the Bureau of Apprenticeship and Training, U.S. Department of Labor. The allowable ratio of apprentices to journeymen in any craft classification will not be greater than the ratio permitted to the Contractor as to his entire work force under the registered program. Any employee listed on a payroll at an apprentice wage rate, who is not a trainee as defined in subdivision (kk) of this subparagraph or is not registered as above, will be paid the wage rate determined by the Secretary of Labor for the classification of work he actually performed. The Contractor or Subcontractor will be required to furnish to the contracting officer written evidence of the registration of his~~

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program and apprentices, as well as of the appropriate ratios and wage rates, for the area of construction prior to using any apprentices on the contract work.

(ii) ~~**Trainees:** Trainees will be permitted to work as such when they are bona fide trainees employed pursuant to a program approved by the U.S. Department of Labor, Manpower Administration, Bureau of Apprenticeship and Training, and where subdivision (iii) of this subparagraph is applicable, in accordance with the provisions of Part 5a of this subtitle.~~

(iii) ~~**Application of 29 CFR part 5a:** On contracts in excess of \$10,000, the employment of all laborers and mechanics, including apprentices and trainees, as defined in 5.2 (c), will also be subject to the provisions of Part 5a of this subtitle. Apprentices and trainees will be hired in accordance with the requirements of Part 5a of this subtitle.~~

5. ~~**Compliance With Copeland Regulations 29CFR Part 3:** The Contractor will comply with the Copeland Regulations (29 CFR Part 3) of the Secretary of Labor which are herein incorporated by reference.~~

6. ~~**Subcontracts:** The Contractor will insert in any subcontracts the clauses contained in 29 CFR 5.5 (a) (1) through (5) and (7) and such other clauses as the State may, by appropriate instructions, require and also a clause requiring the Subcontractors to include these clauses in any lower tier subcontracts which they may enter into, together with a clause requiring this insertion in any further subcontracts that may in turn be made.~~

7. ~~**Contract Termination, Debarment:** A breach of clauses (1) through (6) may be grounds for termination of the Contract for debarment as provided in 29 CFR 5.6.~~

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**PART 5a—LABOR STANDARDS FOR RATIOS OF APPRENTICES
AND TRAINEES TO JOURNEYMEN
ON FEDERAL AND FEDERALLY ASSISTED CONSTRUCTION**

5a.3—APPRENTICE AND TRAINEE EMPLOYMENT REQUIREMENTS

- (a) — The following Contract clauses will be conditions of each Federal or Federally assisted construction Contract in excess of \$10,000 and each Federal agency concerned will include the clauses, or provide for their inclusion in each such Contract.
- (1) — The Contractor agrees: (i) That he will make a diligent effort to hire for the performance of the Contract a number of apprentices or trainees, or both, in each occupation, which bears to the average number of the journeymen in that occupation to be employed in the performance of the Contract the applicable ratio as determined by the Secretary of Labor.
- (ii) — That he will assure that twenty five percent (25%) of such apprentices or trainees in each occupation are in their first year of training, where feasible. Feasibility here involves a consideration of: (a) the availability of training opportunities for first year apprentices; (b) the hazardous nature of the work for beginning workers; and (c) excessive unemployment of apprentices in their second and subsequent years of training.
- (iii) — That during the performance of the Contract, he will, to the greatest extent possible, employ the number of apprentices or trainees necessary to meet currently the requirements of subdivisions (i) and (ii) of this subparagraph.
- (2) — The Contractor agrees to maintain records of employment by trade of the number of apprentices and trainees, apprentices and trainees by first year of training, and of journeymen and the wages paid and hours of work of such apprentices, trainees and journeymen. The Contractor agrees to make these records available for inspection upon request of the Department of Labor and the Federal agency concerned.
- (3) — The Contractor who claims compliance based on the criterion stated in 5a.4(a) agrees to maintain records of employment, as described in 5a.3(a) (2), on non Federal and Non federally assisted construction work done during the performance of this Contract in the same labor market area. The Contractor agrees to make these records available for inspection upon request of the Department of Labor and the Federal agency concerned.

5a.4—CRITERIA FOR MEASURING DILIGENT EFFORT

- (a) — The Contractor employs, on all his public and private construction work combined in the labor market area of this Project, an average number of apprentices and trainees by craft as required by the Contract clauses, at least equal to the ratios established in accordance with 5a.5.

5a.5—DETERMINATION OF RATIOS OF APPRENTICES OR TRAINEES TO JOURNEYMEN

The Secretary of Labor has determined that the applicable ratios of apprentices and trainees to journeymen in an occupation will be as follows:

- (a) — In any occupation the applicable ratio of apprentices and trainees to journeymen will be equal to the predominant ratio for the occupation in the area where the construction is to be undertaken, set forth in collective bargaining agreements or other employment agreements, and available through the Regional Manager for the Bureau of Apprenticeship and Training for the applicable area.
- (b) — For any occupation for which no such ratio is found, the ratio of apprentices and trainees to journeymen will be determined by the Contractor in accordance with the recommendations set forth in the standards of the National Joint Apprentice Committee for the occupation, which are filed with the U.S. Department of Labor's Bureau of Apprenticeship and Training.
- (c) — For any occupation for which no such recommendations are found, the ratio of apprentices and trainees to journeymen will be at least one (1) apprentice or trainee for every five (5) journeymen.

Division 0

PART 3 — WAGE RATES

3.01 — GENERAL

The following pages are the Federal Government Wage Determination for this project:

Division 0

DFA OFFICE OF CAPITOL FACILITIES

ADDENDA
SECTION 00900

1.01 **ADDENDA**

Any Addendum issued on this Project will be included in Section 00900 and become a part of the *Standard Form of Agreement Between the Owner and the Contractor*.

Division 0

DFA OFFICE OF CAPITOL FACILITIES

**SUMMARY OF WORK
SECTION 01010**

1.01 WORK COVERED BY CONTRACT DOCUMENTS

- A. **Work Covered:** Work covered by the Contract Documents is as shown in drawings and described in words in the Project Manual. The Project Title and location is indicated on the first page of this Project Manual.
- B. **Start of Work:** Work shall be started immediately upon issuance of a *Notice to Proceed*. Prior to this, all Contracts and beginning documents will have been executed and insurance in force.
- C. **Time of Completion:** The completion of this Work is to be on, or before, the time indicated in the *Standard Form of Agreement Between the Owner and the Contractor*.
- D. **Contractor's Duties:**
1. Except as specifically noted, provide and pay for:
 - a. Labor, materials and equipment.
 - b. Tools, construction equipment and machinery.
 - c. Water, heat and utilities required for construction.
 - d. Other facilities and services necessary for proper execution and completion of the Work.
 2. Pay legally required sales, consumer, use, payroll, privilege and other taxes.
 3. Secure and pay for, as necessary for proper execution and completion of work, and as applicable at the time of the receipt of the bids:
 - a. Permits.
 - b. Government fees.
 - c. Licenses.
 4. Give required notices.
 5. Comply with codes, ordinances, rules, regulations, orders and other legal requirements of public authorities which bear on performance of work.
 6. Promptly submit written notice to Professional of observed variance of Contract Documents from legal requirements. It is not the Contractor's responsibility to make certain that drawings and specifications comply with codes and regulations. Appropriate modifications to Contract Documents will adjust necessary changes. Assume responsibility for work known to be contrary to such requirements, without notice.
 7. Enforce strict discipline and good order among employees. Do not employ or work unfit persons, or persons, not skilled in assigned task.
 8. Provide a written safety plan.
- E. **Hazardous Materials:** The Prime General Contractor is responsible for the removal and disposal of any hazardous materials encountered in the performance of the Contract requirements. Hazardous Containing Materials [HCM] include, but are not limited to, Asbestos and Lead Paint and should be identified and removed as a part of the Contract. The absence of details does not relieve the Prime General Contractor from the responsibility of removal and disposal; but, a Change Order could be executed in the absence of identified HCM in the documents.
- F. **Subcontractor's List:** The Prime General Contractor will submit to the Owner a list of all Subcontractors, including disciplines and COR #'s, over Fifty Thousand Dollars (\$50,000.00) to be used on the Project prior to contract award by the Owner. Any Sub-Contractor listed must be acceptable to the Owner. Additionally, include any Mechanical, Plumbing, or Electrical Sub-Contractor listed on Proposal Form regardless of amount. (Modified Jan 2015)
The Prime General Contractor will submit to the Owner within seven (7) days from the Notice to Proceed, a completed *Minority Tracking Form* (attached as Exhibit "A" at the end of Division 1 Section 01900) outlining the use of minority subcontractors that will be used on the project.
- G. **Coordination:** The Prime General Contractor is responsible for the coordination of the total project. All other Prime Contractors and all Subcontractors will cooperate with the Prime General Contractor so as to facilitate the general progress of the Work. Each trade shall afford all other trades every reasonable opportunity for the installation of their work. Refer to Section 01041 entitled *Project Coordination*.

1.02 **CONTRACTS**

- A. **Contracts:** Construct work under a single Prime General Contract. Refer to Section 00500 entitled *Standard Form of Agreement Between the Owner and the Contractor*.

1.03 **WORK BY OTHERS**

Work by Others shall be described in each appropriate Project Manual section and noted on the Drawings.

1.04 **OWNER-FURNISHED PRODUCTS**

- A. **Products Furnished By Owner:** Products furnished by Owner shall be described in each appropriate Project Manual section and noted on the Drawings.
- B. **Products:** Delivered and unloaded at site.
- C. **Owner's Duties:**
1. Schedule delivery date with Supplier in accordance with construction schedule.
 2. Obtain installation drawings and instructions.
 3. Submit claims for transportation damages.
 4. Arrange Guarantees, Warranties, etc..
- D. **Contractor's Duties:**
1. Designate required delivery date for each product in construction schedule.
 2. Promptly inspect delivered products, report missing, damaged, or defective items.
 3. Handle at site, including uncrating and storage.
 4. Protect from exposure to elements and from damage.
 5. Repair or replace damaged items resulting from Contractor's operations.
 6. Install and make final connections.

1.05 **CONTRACTOR'S USE OF PREMISES**

- A. Confine operations at site to areas permitted by:
1. Law.
 2. Ordinances.
 3. Permits.
 4. Contract Documents.
 5. Owner.
- B. Do not unreasonably encumber site with materials or equipment.
- C. Do not load structure with weight that will endanger structure.
- D. Assume full responsibility for protection and safekeeping of products stored on premises.
- E. Move any stored products which interfere with operations of Owner or other Contractors.
- F. Obtain and pay for use of additional storage or work areas needed for operations.
- G. Limit use of site for work and storage to the area indicated in the drawings.

1.06 **SUMMARY OF WORK SUPPLEMENT**

- A. Refer to Section 01900 entitled *Division One Supplement* for Project specific summary of work requirements.

**ALLOWANCES
SECTION 01020**

1.01 **DESCRIPTION**

- A. **Related Work Specified Elsewhere:** Sections of Specifications as listed under Schedule of Allowances.

- B. **Allowances for Products:**
 - 1. Purchase products under each allowance as directed by the Professional.
 - 2. Amount of each allowance includes:
 - a. Net cost of product.
 - b. Delivery and unloading at site.
 - c. Applicable taxes.
 - 3. In addition to amounts of allowances, include in bid, for inclusion in Contract sum, Contractor's costs for:
 - a. Handling at site, including uncrating and storage.
 - b. Protection from elements and damage.
 - c. Labor, installation and finishing.
 - d. Other expenses required to complete installation.
 - e. Overhead and profit.

- C. **Selection of Products:**
 - 1. **Architect's Duties:** Consult with Contractor in consideration of products and Suppliers; make selections, designate products to be used; and, notify Contractor in writing.
 - 2. **Contractor's Duties:** Assist Professional in determining qualified Suppliers; obtain proposals from Suppliers when requested by the Professional; and, make appropriate recommendations for consideration of the Professional. Upon notification of selection, enter into Purchase Agreement with designated Supplier.

- D. **Delivery:** The Contractor is responsible for arranging all delivery and unloading and should promptly inspect products for damage or defects and submit claims for transportation damage.

- E. **Installation:** Comply with requirements of referenced specification section.

- F. **Adjustment of Costs:** Should actual purchase cost be more, or less, than the specified allowance amount, the Contract Sum will be adjusted by Change Order equal to the amount of the difference.

1.02 **SCHEDULE OF ALLOWANCES**

- A. Refer to Section 01900 entitled *Division One Supplement* for Project specific Schedule of Allowances.

**SCHEDULE OF VALUES
SECTION 01025**

1.01 **DESCRIPTION**

- A. **Scope:** Submit a *Schedule of Values* to the Professional at least ten (10) days prior to submitting the first Application for Payment. Upon the Professional's request, the Contractor will provide supportive data substantiating their correctness. Use *Schedule of Values* only as basis for Contractor's Application for Payment.

- B. **Form of Submittal:** Submit Schedule of Values on AIA Document G703, or computer generated form containing similar style, using Table of Contents of these Specifications as basis for format for listing costs of work for sections under Divisions 2-16. Identify each line item with number and title as listed in Table of Contents in these Specifications.

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- C. **Preparing Schedule of Values:**
 - 1. Itemize separate line item cost for each of the following general cost items: Performance and Payment Bonds, field supervision and layout, temporary facilities and controls.
 - 2. Itemize separate line item cost for work required by each Section of these Specifications. Break down installed cost with overhead and profit.
 - 3. For each line item which has installed value of more than \$20,000, break down costs to list major products for operations under each item, rounding figures to nearest dollar. Make sum of total costs of all items listed in Schedule equal to total Contract sum.

 - D. **Preparing Schedule of Unit Material Values:**
 - 1. Submit separate Schedule of unit prices for materials to be stored on which progress payments will be made. Make form of submittal parallel to Schedule of Values with each line item identified same as line item in Schedule of Values. Include in unit prices only: cost of material, delivery, unloading at site, and sales tax.
 - 2. Make sure unit prices multiplied by quantities equal material cost of that item in Schedule of Values.

 - E. **Review and Resubmittal:** After Professional's review, if requested, revise and resubmit Schedule of Values in same manner.

**APPLICATIONS FOR PAYMENT
SECTION 01027**

1.01 SCOPE

- A. This Section describes procedures for preparing and submitting Applications for Payment by the Contractor.

1.02 APPLICATIONS FOR PAYMENT

- A. **Format:**
 - 1. Applications for Payments will be prepared on AIA forms G702 - *Application and Certificate for Payment* and G703 - *Continuation Sheet*; or, a computer generated form containing similar data may be used.

- B. **Preparation of Application:**
 - 1. Present required information in typewritten form
 - 2. Execute certification by signature of authorized officer
 - 3. Use data from approved *Schedule of Values*. Provide dollar value in each column for each line item for portion of Work performed and for stored products.
 - 4. List each authorized Change Order as an extension on continuation sheet, listing Change Order number and dollar amount as for an original Item of Work.
 - 5. Prepare Application for Final Payment as specified in Section 01700 entitled *Contract Closeout*.

- C. **Submittal Procedures**
 - 1. Submit original and one (1) copy of each Application for Payment
 - 2. Submit an updated construction schedule with each Application for Payment as described in Section 01310 entitled *Progress Schedule* or Section 01311 entitled *Network Analysis Schedules*.
 - 3. Submit requests for payment at intervals agreed upon by the Professional, Owner and Contractor.
 - 4. Submit requests to the Professional at agreed upon times, or as may be directed otherwise.

- D. **Substantiating Data:**
 - 1. Submit data justifying dollar amounts in question when such information is needed.
 - 2. Provide one (1) copy of the data with a cover letter for each submittal.
 - 3. Indicate the Application number, date and line item number and description.

**CHANGE ORDER PROCEDURES
SECTION 01028**

1.01 SCOPE

- A. This Section describes the procedures for processing Change Orders by the Professional and the Contractor.

1.02 CHANGE ORDER PROCEDURES

- A. **Change Proposed by Professional:** The Professional may issue a Proposal Request to the Contractor which includes a detailed description of a proposed change with supplementary or revised Drawings and Specifications and a change in Contract Time for executing the change. The Contractor will prepare and submit an estimate within ten (10) days.
- B. **Change Proposed by Contractor:** The Contractor may propose a change by submitting a request for change to the Professional, describing the proposed change and its full effect on the Work, with a statement describing the reason for the change, and the effect on the Contract Sum and Contract Time with full documentation and a statement describing the effect on Work by separate or other Contractors. Document any requested substitutions in accordance with Section 01630 entitled *Substitutions and Product Options*.
- C. **Contractor's Documentation:**
1. Maintain detailed records of Work completed on a time and material basis. Provide full information required for evaluation of proposed changes, and substantiate costs of changes in the Work.
 2. Document each quotation for a change in cost or time with sufficient data allowing evaluation of the quotation.
 3. On request, provide additional data to support computations:
 - a. Quantities of products, labor, and equipment
 - b. Taxes, insurance and bonds
 - c. Overhead and profit
 - d. Justification for any change in Contract Time
 - e. Credit for deletions from Contract, similarly documented
 4. Support each claim for additional costs, and for Work completed on a time and material basis, with additional information:
 - a. Origin and date of claim
 - b. Dates and times work was performed and by whom
 - c. Time records and wage rates paid
 - d. Invoices and receipts for products, equipment, and subcontracts, similarly documented.
- D. **Construction Change Directive:** The Professional may issue a document, approved by the Owner, instructing the Contractor to proceed with a change in the Work, for subsequent inclusion in a Change Order. The document will describe changes in the Work, and will designate method of determining any change in Contract Sum or Contract Time. The change in Work will be promptly executed.
- E. **Format:** The Professional will prepare five (5) originals of the Change Order using the Owner's *Change Order Form*. (see also 700.20)
- F. **Types of Change Orders:**
1. **Stipulated Sum Change Order:** Based on Proposal Request and Contractor's fixed price quotation, or Contractor's request for a Change Order as approved by the Professional.
 2. **Unit Price Change Order:** For pre-determined unit prices and quantities, the Change Order will be executed on a fixed unit price basis. For unit costs or quantities of units of work which are not pre-determined, execute Work under a Construction Change Directive. Changes in Contract Sum or Contract Time will be computed as specified for Time and Material Change Order.

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- 3. **Time and Material Change Order:** Submit itemized account and supporting data after completion of change, within time limits indicated in the *Standard Form of Agreement Between the Owner and the Contractor*. The Professional will determine the change allowable in Contract Sum and Contract Time as provided in the Contract Documents. The Contractor shall maintain detailed records of Work accomplished on Time and Material basis and shall provide full information required for evaluation of proposed changes, and to substantiate costs for changes in the Work.

 - G. **Execution of Change Order:** The Professional will issue Change Orders for signatures of parties as provided in the *Standard Form of Agreement Between the Owner and the Contractor*. Final execution of all Change Orders requires approval by the Owner.

 - H. **Correlation of Contractor Submittals:** The Contract shall promptly revise *Schedule of Values* and the *Application for Payment* forms to record each authorized Change Order as a separate line item and adjust the Contract Sum. Promptly revise progress schedules to reflect any change in Contract Time, revise sub-schedules to adjust time for other items of Work affected by the change and resubmit. Promptly enter changes in Project Record Documents.

**ALTERNATES
SECTION 01030**

1.01 **DESCRIPTION**

- A. **Scope:** This section describes the changes to be made under each alternate.

- B. **General:** The referenced Specification sections contain the pertinent requirements for materials and methods to achieve the work described herein. Coordinate related work and modify surrounding work, as required, to complete the Project under each alternate designated in the Contract.

1.02 **DESCRIPTION OF ALTERNATES**

- A. Refer to Section 01900 entitled *Division One Supplement* for Project specific description of project Alternates.

**PROJECT COORDINATION
SECTION 01041**

1.01 **DESCRIPTION**

- A. **Scope:** To set forth procedures, conditions and responsibility for coordination of the total project.

- B. **Project Coordinator:** The General Contractor will designate one (1) individual as Project Coordinator or Superintendent, as referred to in the General Conditions. Prior to beginning the Work, the name and qualifications will be submitted, in writing, to the Professional. Upon the approval of the Professional and the Owner, the Project Coordinator will remain until the Project is completed and cannot be removed during construction without the written consent of the Owner and the Professional.

1.02 **DUTIES OF PROJECT COORDINATOR**

- A. **General:**
 - 1. **Coordination:** Coordinate the work of all Subcontractors and Material Suppliers.
 - 2. **Supervision:** Supervise the activities of every phase of work taking place on the Project.
 - 3. **Mechanical/Electrical:** Take special care to coordinate and supervise the work of the plumbing, heating and cooling and electrical Subcontractors.
 - 4. **Communication:** Establish lines of authority and communication at the job site.
 - 5. **Location:** The Project Coordinator must be present on the job all of the time.
 - 6. **Permits:** Assist in obtaining building and special permits required for construction.

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- B. **Interpretations of Contract Documents:**
 - 1. **Consultation:** Consult with Architects and Engineers to obtain interpretations.
 - 2. **Assistance:** Assist in resolution of any questions.
 - 3. **Transmission:** Transmit written interpretations to concerned parties.

 - C. **Cessation of Work:** Stop all work not in accordance with the requirements of the Contract Documents.

 - D. **Division One:** Coordinate and assist in the preparation of all requirements of Division One and specifically as follows:
 - 1. **Cutting and Patching:** Supervise and control all cutting and patching of other trades' work.

 - 2. **Project Meetings:** Schedule and preside at all project meetings.
 - 3. **Construction Schedules:** Prepare and submit all construction schedules; supervise work to monitor compliance with schedules.
 - 4. **Shop Drawings, Product Data and Samples:** Administer the processing of all submittals required by the Project Manual.
 - 5. **Schedule of Values:** Assist in preparation and be knowledgeable of each entry in the Schedule of Values.
 - 6. **Testing:** Coordinate all required testing.
 - 7. **Temporary Facilities and Controls:** Allocate, maintain and monitor all temporary facilities.
 - 8. **Substitutions and Product Options:** Administer the processing of all substitutions.
 - 9. **Project Closeout:** Conduct final inspections and assist in collection and preparation of closeout documents.
 - 10. **Cleaning:** Direct and execute a continuing cleaning program throughout construction, requiring each trade to dispose their own debris.
 - 11. **Project Record Documents:** Maintain up-to-date project record documents.
 - 12. **Safety Measures:** Plan and enforce all safety requirements.

 - E. **Changes:** Recommend and assist in the preparation of requests to the Professional for any changes in the Contract.

 - F. **Application for Payment:** Assist in the preparation and be knowledgeable of each entry in the Application and Certificate for Payment.

1.03 **SUBCONTRACTOR'S DUTIES**

- A. **General:** The Subcontractor is responsible for coordinating and supervising employees in the work to be accomplished under their part of the Contract.

- B. **Schedules:** Conduct work to assure compliance with construction schedules.

- C. **Suppliers:** Transmit all instructions to Material Suppliers.

- D. **Cooperation:** Cooperate with the Project Coordinator and other Subcontractors.

1.04 **OWNER-PURCHASED PRODUCTS**

- A. **General:** Cooperate, accept delivery, arrange storage and protect Owner-purchased products until installation, or final acceptance.

**CUTTING AND PATCHING
SECTION 01045**

1.01 GENERAL DESCRIPTION

- A. **Scope:** To set forth broad, general conditions covering cutting and patching that applies to everyone and everything on the job.
- B. Execute cutting including excavating, fitting, or patching of work required to:
 - 1. Make several parts fit properly.
 - 2. Uncover work to provide for installation of ill-timed work.
 - 3. Remove and replace defective work.
 - 4. Remove and replace work not conforming to Contract requirements.
 - 5. Install specified work in existing construction.
- C. In addition to Contract requirements, upon Professional's written instructions:
 - 1. Uncover work for observation of covered work.
 - 2. Remove samples of installed materials for testing.
 - 3. Remove work to provide alteration of existing work.
- D. Do not cut or alter work of another Contractor without permission.
- E. **Payment of Costs:** Costs caused by ill-timed, or defective work, or work not conforming to Contract Documents will be borne by party responsible for ill-timed, defective work, or non-conforming work.

1.02 MATERIALS/PRODUCTS

- A. **Materials for Replacement or Work Removed:** Comply with Specifications for type of work to be accomplished.

1.03 EXECUTION

- A. **Inspection:** Inspect existing conditions of work, including elements subject to movement, or damage during cutting and patching.
- B. **Preparation Prior to Cutting:** Provide shoring, bracing and support, as required, to maintain structural integrity of the building. Provide protection for other portions of work and protection from the elements.
- C. **Performance:**
 - 1. Execute cutting and demolition by methods which prevent damage to other work and will provide surfaces to receive installation of repairs and new work.
 - 2. Execute excavating and backfilling by methods which prevent damage to other work and prevent settlement.
 - 3. Restore work which has been cut or removed; install new products to provide completed work in accordance with requirements of Contract Documents.
 - 4. Refinish entire surfaces, as necessary, to provide an even finish. Refinish continuous surfaces to the nearest intersection and assemblies entirely.

**PROJECT MEETINGS
SECTION 01200**

1.01 DESCRIPTION

- A. **Contractor's Responsibilities:** The General Contractor will administer all progress meetings which include the following:
1. Prepare agenda
 2. Distribute written notice of meetings seven (7) days in advance
 3. Make physical arrangements for and presiding at the meetings
 4. Record minutes
 5. Distribute copies of the minutes to participants within four (4) days
- B. **Pre-Construction Meeting:** The Owner will schedule a pre-construction meeting as soon as possible after the award of Contract and the issuance of a *Notice to Proceed*.
1. **Attendance:**
 - a. Owner
 - b. Professional and Consultants
 - c. General Contractor
 - d. Major Subcontractors, including mechanical and electrical
 - e. Representatives of governmental, or other regulatory agencies
 - f. Commissioning Authority Professional (if Cx on project)
 2. **Minimum Agenda:** (prepared by the General Contractor)
 - a. Distribute and discuss list of major Subcontractors and construction schedule
 - b. Critical work sequencing
 - c. Designation of responsible personnel
 - d. Procedures for maintaining record documents
 - e. Use of premises, including office and storage areas
 - f. Owner's requirements
 - g. Security procedures
 - h. Housekeeping procedures
 - i. Commissioning issues (if Cx on project)
 3. **Utilities:** A written agreement must be reached on how all utilities will be furnished and the rates the Contractor will be charged. This agreement should be resolved at this meeting. Refer to Section 1500 entitled *Construction Facilities and Temporary Controls* of this Project Manual for additional utility requirements.
- C. **Progress Meetings:**
1. The Owner will schedule regular meetings at the time of the pre-construction conference
 2. Hold all meetings as progress of work dictates
 3. **Attendance:**
 - a. Owner
 - b. Professional and Consultants
 - c. General Contractor
 - d. Subcontractors, as pertinent to the agenda
 - e. Commissioning Authority Professional (if Cx on project)
 4. **Minimum Agenda:**
 - a. Review, approve minutes of the previous meeting
 - b. Review work progress since last meeting
 - c. Note field inspections, problems and decisions
 - d. Identify problems which impede planned progress
 - e. Review off-site fabrication problems
 - f. Revise construction schedule, as indicated
 - g. Plan progress during the next work period
 - h. Review proposed changes
 - i. Complete other current business
 - j. Commissioning issues (if Cx on project)

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- D. Commissioning Meetings: (if Cx on project) The Owner will schedule a commissioning scoping meeting at the pre-construction conference. Regular Commissioning Meetings will coincide with regularly scheduled Progress Meetings until such time that the Commissioning Process requires additional meetings. The Commissioning Authority Professional will chair, facilitate and document Commissioning Meetings.
1. Attendance:
 - a. Owner
 - b. Commissioning Authority Professional
 - c. Professional and Consultants
 - d. General Contractor
 - e. Subcontractors, as pertinent to unresolved issues identified in current Issues Log
 - f. Testing, Adjusting and Balancing Contractor
 - g. Using Agency's Building Operator/Physical Plant Representative
 2. Minimum Agenda:
 - a. Review, approve minutes of the previous meeting
 - b. Review Issues Log

**PROGRESS SCHEDULES
SECTION 01310**

1.01 **DESCRIPTION**

- A. **Scope:** Provide projected construction schedules for entire work and revise periodically. The following is a minimum requirement and other type schedules are acceptable with Owner's approval. This type of schedule is acceptable for any Project whose initial Contract award amount if **less than one (1) million dollars (\$1,000,000)**.
- B. **Form of Schedules:** Prepare in form of horizontal bar chart.
1. Provide separate horizontal bar column for each trade or operation.
 2. Place in order of the Table of Contents of Specifications.
 3. Identify each column by major Specification section number.
 4. Identify the first work day of each week by horizontal time scale.
 5. Scale and space to allow for updating.
- C. **Contents of Schedule:**
1. Provide complete sequence of construction by activity.
 2. Indicate dates for beginning and completion of each stage of construction.
 3. Identify work of separate floors, separate phases, or other logically grouped activities.
 4. Show projected percentage of completion for each item of work as of first day of month.
- D. **Updating:**
1. Show all changes occurring since previous submission of updated schedule.
 2. Indicate progress of each activity and completion dates.
- E. **Submittals:**
1. Submit initial schedules to the Professional within fifteen (15) days after date of Notice to Proceed.
 2. Submit to Professional periodically updated schedules accurately depicting progress to first day of each month.
 3. Submit two (2) copies, one (1) to be retained by the Professional and the other forwarded to the Owner.

**NETWORK ANALYSIS SCHEDULE
SECTION 01311**

1.01 **DESCRIPTION**

- A. **Scope:** Provide projected network analysis schedules for the entire Work and revise periodically. This type of schedule is acceptable for any Project whose initial Contract award amount is one million dollars (\$1,000,000), or **greater**.

1.02 REFERENCES

- A. **CPM In Construction:** The latest edition of the Manual entitled **The Use of CPM In Construction, A Manual for General Contractors and the Construction Industry**, published by the Associated General Contractors of America (AGC) - Washington, D.C. shall be used.

1.03 QUALITY ASSURANCE

- A. **Contractor's Administrative Personnel:** Two (2) years minimum experience in using and monitoring CPM schedules on comparable Projects is required.

1.04 FORMAT

- A. **Listings:** Reading from left to right, in ascending order for each activity, identify each activity with the applicable specification section number.
- B. **Diagram Sheet Size:** Height and width as required.
- C. **Scale and Spacing:** To allow for notations and revisions.

1.05 SCHEDULES

- A. **Critical Path Methods:** Prepare network analysis diagrams and supporting mathematical analyses using the *Critical Path Method under Concepts and Methods* as outlined in the AGC's **The Use of CPM In Construction, A Manual for General Contractors and the Construction Industry**.
- B. **Order of Work:** Illustrate order and interdependence of activities and sequence of Work; how start of a given activity depends on completion of preceding activities, and how completion of the activity may restrain start of subsequent activities.
- C. **Complete Sequence of Construction:** Illustrate complete sequence of construction by activity, identifying work of separate stages. Provide dates for submittals and return of submittals; dates for procurement and delivery of products; and dates for installation and provision for testing. Provide legend for symbols and abbreviations used.
- D. **Mathematical Analysis:** Tabulate each activity of detailed network diagrams, using calendar dates, and identify for each activity:
1. Preceding and following event numbers
 2. Activity description
 3. Estimated duration of activity, in maximum thirty (30) day intervals
 4. Earliest start date
 5. Earliest finish date
 6. Actual start date
 7. Actual finish date
 8. Latest start date
 9. Latest finish date
 10. Total and free float
 11. Monetary value of activity (keyed to *Schedule of Values*)
 12. Percentage of activity completed
 13. Responsibility
- E. **Analysis Program:** Capable of compiling monetary value of completed and partially completed activities, of accepting revised completion dates, and recomputation of all dates and floats.
- F. **Required Sorts:** List activities in sorts or groups:
1. By preceding work item or event number from lowest to highest
 2. By amount of float, then in order of early start
 3. By responsibility in order of earliest possible start date
 4. In order of latest allowable start dates
 5. In order of latest allowable finish dates
 6. Contractor's periodic payment request sorted by *Schedule of Values* listings, Specifications section

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7. Listing of basic input data which generates the report
 8. Listing of activities on the critical path
 9. Monthly cash flow

G. **Schedule of Values:** Coordinate contents with *Schedule of Values* in Section 01300.

1.06 SUBMITTALS FOR REVIEW

- A. **Preliminary Network Diagram:** Within fifteen (15) days after the date established in the *Notice to Proceed* submit proposed preliminary network diagram defining planned operations for the first sixty (60) days of Work, with a general outline for the remaining Work.
- B. **Review:** Participate in review of preliminary and complete network diagrams jointly with the Professional.
- C. **Proposed Complete Network Diagram:** Within twenty (20) days after joint review of proposed preliminary network diagram, submit draft of proposed complete network diagram for review. Include written certification that mechanical and electrical Subcontractors have reviewed and accepted proposed schedule.
- D. **Complete Network Diagram:** Within ten (10) days after joint review, submit complete network analysis consisting of network diagrams and mathematical analysis.
- E. **Updated Network Schedules:** Submit updated network schedules with each Application for Payment.
- F. **Copies:** Submit the number of opaque reproductions the Contractor requires, plus two (2) copies which will be retained by the Professional and the Owner.

1.07 REVIEW AND EVALUATION

- A. **Review:** Participate in joint review and evaluation of network diagrams and analysis with the Professional at each submittal.
- B. **Evaluate:** Evaluate Project status to determine Work behind schedule and Work ahead of schedule.
- C. **Revisions:** After review and approval of the Professional, revise as necessary as a result of the review and resubmit within ten (10) days.

1.08 UPDATING SCHEDULES

- A. **Schedules:** Maintain schedules to record actual start and finish dates of completed activities.
- B. **Progress:** Indicate progress of each activity to date of revision, with projected completion date of each activity. Update diagrams to graphically depict current status of Work.
- C. **Modifications:** Identify activities modified since previous submittal, major changes in Work, and other identifiable changes.
- D. **Changes:** Indicate changes required to maintain Date of Substantial or Total Completion. These changes will be made only with the approval of the Professional.

-
- E. **Extensions:** Contract completion time will be adjusted only for causes specified in the Contract. Requests for an extension of the contract completion date by the Contractor shall be supported with a justification, CPM data and supporting evidence as the Owner may deem necessary for determination as to whether or not the Contractor is entitled to an extension of time under the provisions of the Contract. Submission of proof based on revised activity logic duration and costs is obligatory to any approvals. The schedule must clearly display that the Contractor has used, in full, all the float time available for the work involved in the request. The Owner's determination as to the total number of days of contract extension shall be based upon the current computer-produced calendar-dated schedule for the time period in question and all other relevant information. Actual delays in activities which, according to the computer-produced calendar-dated schedule, do not affect the extended and predicted contract completion dates shown by the critical path in the network, will not be the basis for a change to the contract completion date. The Owner will, within a reasonable time after receipt of such justification and supporting evidence, review the facts and advise the Contractor in writing of the Owner's decision. The Contractor shall submit each request for a change in the contract completion date to the Owner. The Contractor shall include as a part of each change order proposal, a sketch showing all CPM revisions, duration changes, and cost changes, for the work in question and its relationship to other activities on the approved arrow diagram.
 - F. **Substantiate:** Submit sorts required to support recommended changes.
 - G. **Report:** Provide narrative report to define problem areas, anticipated delays, and impact on the schedule. Report corrective action taken or proposed and its effect.

1.09

DISTRIBUTION

- A. **Distribution of Copies:** Following joint review, distribute copies of updated schedules to Contractor's Project site, to Subcontractors, Suppliers, Professional and Owner.
- B. **Reporting Problems:** Instruct recipients to promptly report, in writing, problems anticipated by projections shown in schedules.

SHOP DRAWINGS, PRODUCT DATA AND SAMPLES SECTION 01340

1.01

DESCRIPTION

- A. **Scope:** Submit to the Professional shop drawings, product data and samples required by Specification sections. Submit an additional copy of shop drawings, product data and samples related to items/systems identified to be commissioned to the Commissioning Authority Professional to be reviewed concurrently with the Professional. (if Cx on project).
- B. **Shop Drawings:** Original drawings prepared by Contractor, Subcontractor, Supplier, or Distributor which illustrate some portion of the Work; showing fabrication, layout, setting, or erection details.
 - 1. Prepared by a qualified detailer.
 - 2. Identify details by reference to sheet and detail numbers shown on Contract drawings.
 - 3. Minimum sheet size: 8 1/2" x 11"
 - 4. Reproductions for submittals: Opaque diazo prints.
- C. **Product Data:**
 - 1. **Manufacturer's Standard Schematic Drawings:** Modify drawings to delete information which is not applicable to the Project. Supplement standard information to provide additional information applicable to the Project.
 - 2. **Manufacturer's Catalog Sheets, Brochures, Diagrams, Schedules, Performance Charts, Illustrations and Other Standard Descriptive Data:** Clearly mark each copy to identify pertinent materials, products, or models. Show dimensions and clearances required. Show performance characteristics and capacities, wiring diagrams and controls.

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- D. **Samples:** Physical examples to illustrate materials, equipment or workmanship and to establish standard by which completed work is judged.
1. **Office Samples:** Of sufficient size and quantity to clearly illustrate functional characteristics of products or material with integrally related parts and attachment devices and full range of color samples. After review, samples remain the property of the Professional until completion of the construction project.
 2. **Field Samples and Mock-ups:** Erect on project site at location acceptable to Professional. Construct each sample, or mock-up, completely including work of all trades required in finished work.
- E. **Contractor's Responsibilities:**
1. Review shop drawings, product data and samples prior to submission.
 2. Verify field measurements, field construction criteria, catalog numbers and similar data.
 3. Coordinate each submittal with requirements of work and of Contract Documents.
 4. Contractor's responsibility for errors and omissions in submittals is not relieved by the Professional's review of submittals.
 5. Contractor's responsibility for deviations in submittals from requirements of Contract Documents is not relieved by Professional's review of submittals unless Professional gives written acceptance of specific deviations.
 6. Notify Professional in writing at the time of submission of deviations in submittals from requirements of Contract Documents.
 7. Begin no work requiring submittals until the return of submittals bearing Professional's stamp and initials, or signature indicating review.
 8. After Professional's review, distribute copies.
- F. **Submission Requirements:**
1. Schedule submission with ample time before dates reviewed submittals will be needed.
 2. Submit number of copies of shop drawings and product data which Contractor requires for distribution, plus one (1) copy to be retained by the Professional.
 3. Submit number of samples specified in each Specification section.
 4. Accompany submittals with transmittal letter, in duplicate, containing date, Project title and number; Contractor's name and address; the number of each shop drawings, product data and samples submitted; notification of deviations from Contract Documents; and, other pertinent data.
 5. Submittals shall include:
 - a. Date and revision dates.
 - b. Project title and number.
 - c. The names of the Professional, Contractor, Supplier, Manufacturer and separate detailer, when pertinent.
 - d. Identification of product, or material.
 - e. Relation to adjacent structure, or materials.
 - f. Field dimensions clearly identified as such.
 - g. Specification section number.
 - h. Applicable standards such as ASTM number, or federal specifications.
 - i. A blank space (2" x 3") for the Professional's stamp.
 - j. Identification of deviations from Contract Documents.
 - k. Contractor's stamp, initialed or signed, certifying the review of submittal, verification of field measurements and compliance with Contract Documents.
- G. **Resubmission Requirements:**
1. **Shop Drawings:** Revise initial drawings, as required, and resubmit as specified for initial submittal. Indicate on the drawings any changes which have been made other than those required by the Professional.
 2. **Product Data and Samples:** Submit new data and samples, as required, for initial submittal.

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- H. **Distribution of Submittals After Review:**
1. Distribute copies of shop drawings and product data which carry Professional's stamp to Contractor's file, job site file, Subcontractor, Supplier and Fabricator.
 2. Distribute samples as directed.
- I. **Professional's Duties:**
1. Review submittals with reasonable promptness.
 2. Review for design concept of Project and information given in Contract Documents.
 3. Review of separate item does not constitute review of an assembly in which item functions.
 4. Affix stamp and initials, or signature, certifying the review of submittal.
 5. Return submittals to Contractor for distribution.

**TESTING LABORATORY SERVICES
SECTION 01410**

1.01 **DESCRIPTION**

- A. **Scope:** The Contractor will employ and pay for the services of an independent laboratory to perform specified services. Employment of a testing laboratory shall in no way relieve the Contractor of his obligation to perform work in accordance with the Contract.
- B. **Inspection, Sampling and Testing:** Refer to each individual specification section for specific inspection, sampling and testing requirements.
- C. **Qualification of Laboratory:**
1. Meet the *Recommended Requirements for Independent Laboratory Qualification* published by the American Council of Independent Laboratories.
 2. Meet the basic requirements of ASTM E 329-70, *Standards of Recommended Practice for Inspection and Testing Agencies for Concrete and Steel as Used in Construction*.
 3. **Responsible Engineer:** Perform all testing under the direct supervision of a registered Professional engineer employed full time by the testing laboratory.
 4. **Submittals:** Submit a copy of the inspection report of the facilities made by materials reference laboratory of National Bureau of Standards of any deficiencies reported by the inspection.
 5. **Approval:** The Professional must approve the testing laboratory.
- D. **Laboratory's Duties:**
1. Upon notice, cooperate with the Professional and the Contractor to promptly provide qualified personnel. Perform specified inspections, sampling and testing of materials and methods of construction to ascertain compliance with requirements of Contract Documents. Promptly notify the Professional and the Contractor of irregularities or deficiencies of work observed during performance of services.
 2. Reports of inspections and tests will include:
 - a. Date issued
 - b. Project title and number
 - c. Testing laboratory's name and address
 - d. Name and signature of inspector
 - e. Date of inspection, or sampling
 - f. Record of temperature and weather
 - g. Date of test
 - h. Identification of product and Specification section
 - i. Location of Project
 - j. Type of inspection, or test
 - k. Observations regarding compliance with Contract Documents

-
3. Prompt distribution of copies of the inspection reports and tests to:
 - a. Owner
 - b. Professional
 - c. General Contractor
 - d. Consulting Engineer, when pertinent
 - e. Subcontractor, when pertinent

 - E. **Contractor's Responsibilities:**
 1. Cooperate with laboratory personnel to provide access to work and to manufacturer's operation. Provide the laboratory with the required quantities of preliminary samples representative of materials to be tested and required quantities. When required, furnish copies of mill test reports. Furnish laboratory casual labor to obtain and handle samples at the site and to facilitate inspections and tests. Provide facilities for laboratory's exclusive use for storage and curing of test samples. Notify laboratory sufficiently in advance of operations to allow for assignment of personnel and scheduling of tests.
 2. Arrange and pay for additional samples and tests required for Contractor's convenience. When initial tests indicate work does not comply with Contract Documents, the Contractor may employ and pay for the services of a separate, equally qualified independent testing laboratory to perform additional inspections, sampling and testing.

**CONSTRUCTION FACILITIES AND TEMPORARY CONTROLS
SECTION 01500**

1.01 DESCRIPTION

- A. **Scope:** Work required under this section consists of all temporary construction facilities, services and related items to complete the work indicated on the drawings and described in the Project Manual.

- B. **Standards:**
 1. Conform to or exceed all temporary construction requirements stated in the current edition of the **Standard Building Code** [Chapter entitled *Safeguards During Construction*].
 2. Refer to Article 10.1.1 in Section 00700 entitled *General Conditions*.

- C. **Materials:** All materials required by the Work of this section shall be as specified in the respective sections.

1.02 FACILITIES AND CONTROLS

- A. **Access:** The Prime General Contractor shall provide an adequate access and/or roads to the site of the structure, if required for the prosecution of work; and, should also provide and maintain at least one (1) temporary, or permanent, access to each working elevation to be permanently occupied.

- B. **Hoisting Facilities:** The Prime General Contractor shall be responsible for providing suitable capacity and hoisting facilities for all people and materials. The use of the hoisting facilities shall be by mutual agreement of the Prime General Contractor and the individual Contractor.

- C. **Field Office and Sheds:** At all times, the Prime General Contractor shall provide and maintain a weatherproof office with telephone, which may also be used by Subcontractors, the Owner and the Professional. Office location will be approved by the Owner. Each general and individual Contractor shall provide suitable watertight/dampproof sheds to house their construction materials.

- D. **Sanitation Facilities:** The Prime General Contractor is responsible for furnishing adequate temporary toilet facilities on the job site.

- E. **Drinking Water:** The Prime General Contractor shall provide at all times sanitary drinking water facilities for all workmen on the job including ice, when required, and paper cups, etc..

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- F. **Fire Protection:** The Prime General Contractor shall provide general temporary fire protection. Subcontractors will be responsible for their own.
 - G. **Storage:** The Prime General Contractor shall coordinate the allocation of storage areas to the various Subcontractors.
 - H. **Temporary Heat:** The Prime General Contractor shall provide heat, fuel and services, as necessary, to protect all work from dampness and cold until final acceptance. If in the late stages of the construction, mechanical and electrical installations will permit, the mechanical and electrical facilities may be used to provide heat and ventilation. However, the Owner is saved harmless of any costs of operation or responsibility as to acceptance of mechanical and/or electrical installations.
 - I. **Utilities:** The Prime General Contractor shall make arrangements for and furnish all water, electricity (lighting and power) and other utilities necessary for construction purposes. A written agreement must be reached on how all utilities (water and electricity) will be furnished and the rates the Contractor will be charged. A copy of the final agreement signed by the Contractor and the Institution or Agency must be forwarded to the Owner. If the written agreement is not filed with the Owner, the Contractor and the Institution or Agency waives all rights as to the rates charged. The Owner will then determine all utility rates and assess the charges before final payment is rendered.
 - J. **Project Sign:**) (new State Seal per Legislature July 1, 2014) **(NOT APPLICABLE FOR THIS PROJECT)**
 - 1. The Prime General Contractor will erect on adequate supports and maintain one (1) neatly constructed and painted 3/4" thick plywood sign of size, color, layout, and location as indicated in the Contract Documents. (example attached as Exhibit "B" at the end of Division 1 Section 01900)
 - 2. No other signs will be displayed on the job site without permission of the Professional. The displaying of sign advertisements is strictly prohibited.

**SUBSTITUTIONS AND PRODUCT OPTIONS
SECTION 01630**

1.01 DESCRIPTION

- A. **Scope:** To set forth the procedure and conditions for substitutions and to give the product options available to the Contractor.

1.02 PRODUCTS LIST

- A. Within thirty (30) days after the Contract has been signed, the Contractor will submit to the Professional five (5) copies of a complete list of all products proposed for installation.
- B. Tabulate the list by Specification sections.
- C. For products specified under reference standards, include with listing of each product:
 - 1. Name and address of Manufacturer.
 - 2. Trade name.
 - 3. Model, or catalog designation.
 - 4. Manufacturer's data.
 - 5. Performance and test data.
 - 6. Reference standards.

1.03 CONTRACTOR'S OPTIONS

- A. For products specified only by reference standards, select any product meeting product standards by any Manufacturer.
- B. For products specified by naming a minimum of three (3) products or Manufacturers, select any product and Manufacturer named.

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- C. For product specified by naming one (1) or more products, but indicating the option of selecting equivalent products by stating "or equal" after specified product, Contractor must submit request, as required for substitution, for any product not specifically named.
 - D. For products specified by naming only one (1) product and Manufacturer, an equivalent product will always be accepted if it is equal in all respects. The Contractor must submit a request for substitution as set forth in this Section.
 - E. For products specified by naming only one (1) product and Manufacturer and stating no substitutions will be accepted, there is no option and no substitutions will be allowed. This option must have written approval by the Owner before bidding.

1.04

SUBSTITUTIONS

- A. Professional will not consider requests for substitutions during bidding.
- B. Within thirty (30) days after the Contract has been signed, the Professional will consider formal requests from the Contractor for substitution of products in place of those specified. Submit five (5) copies of the request for substitutions. Include in the request:
 - 1. Complete data substantiating compliance of proposed substitutions with Contract Documents.
 - 2. For products:
 - a. Product identification including Manufacturer's name and address.
 - b. Manufacturer's literature: Product description, performance and test data and reference standards.
 - c. Samples.
 - d. Name and address of similar products on which product was used and date of installation.
 - 3. For construction methods:
 - a. Detailed description of proposed method.
 - b. Drawings illustrating methods.
 - 4. Itemized comparison of proposed substitutions with product or method specified.
 - 5. Data relating to changes in construction schedule.
 - 6. Accurate cost data on proposed substitution in comparison with product or method specified.
- C. In making request for substitution, Contractor represents:
 - 1. Proposed product, or method, has been investigated and determined that it is equal or superior in all respects to that specified.
 - 2. The same guarantee will be provided for substitutions as for product or method specified.
 - 3. Installation of accepted substitutions will be coordinated into the Work, making such changes required of work to be complete in all respects.
 - 4. All claims for additional costs related to substitution which consequently become apparent will be waived.
 - 5. Cost data is complete and includes all related costs under the Contract.
- D. Substitutions will not be considered if:
 - 1. Indicated, or implied, on shop drawings or product data submittals without formal request submitted in accordance with this Section.
 - 2. Acceptance will require substantial revision of Contract Documents.
 - 3. In the Professional's judgment, the product, or material, is not equal.

**STARTING OF SYSTEMS
SECTION 01650**

1.01 GENERAL

- A. **Scope:** This Section describes the procedures for start up of all building equipment and systems including necessary demonstration and instructions.

1.02 STARTING SYSTEMS

- A. Coordinate Schedule for start-up of various equipment and systems.
- B. Notify Professional and Owner seven (7) days prior to start-up of each system.
- C. Verify each piece of equipment or system has been checked for proper lubrication, drive rotation, belt tension, control sequence, or other conditions which may cause damage.
- D. Verify that tests, meter readings and specified electrical characteristics agree with those required by the equipment or system manufacturer.
- E. Verify wiring and support components for equipment are complete and tested.
- F. Execute start-up under supervision of responsible Contractors' personnel in accordance with manufacturers' instructions.
- G. When specified in individual specification Sections, require Manufacturer to provide authorized representative to be present at site to inspect, check and approve equipment or system installation prior to start-up, and to supervise placing equipment or system in operation.
- H. Submit a written report that equipment or system has been properly installed and is functioning correctly.

1.03 DEMONSTRATION AND INSTRUCTIONS

- A. Demonstrate operation and maintenance of Products to Owner's personnel prior to date of Substantial Completion.
- B. Utilize operation and maintenance manuals as basis for instruction. Review contents of manual with Owner's personnel in detail to explain all aspects of operation and maintenance.
- C. Demonstrate start-up, operation, control, adjustment, trouble-shooting, servicing, maintenance, and shutdown of each item of equipment at agreed-upon times, at designated location.
- D. Prepare and insert additional data in operations and maintenance manuals when need for additional data becomes apparent during instruction.

**CONTRACT CLOSEOUT
SECTION 01700**

1.01 DESCRIPTION

- A. **Scope:** The work required in this Section consists of the final inspections and the submission of all closeout documents and related items to complete the Work indicated on the Drawings and described in the Project Manual.

1.02 FINAL INSPECTIONS

- A. **Professional's Inspection:** The Contractor shall make written request for a final inspection to the Professional; notice to be given ten (10) days prior to the inspection. A list of any deficiencies, compiled by the Professional, will be corrected by the Contractor. If, in the Professional's judgement, the Project is not ready for a final inspection, the Professional may schedule another inspection

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- B. **Owner's Inspection:** After the Professional has ascertained the Project to be ready, an Owner's inspection will be scheduled within ten (10) days thereafter. The Contractor will have ten (10) days after the Owner's acceptance to make any corrections of punch list items and to submit closeout documents.
 - C. **Correction of Work Before Final Payment:** The Contractor shall promptly remove from the Owner's premises all materials condemned for failure to conform to the Contract, whether incorporated in the Work or not, and the Contractor shall, at his own expense, replace such condemned materials with those conforming to the requirements of the Contract. Failure to remedy such defects after ten (10) days written notice will allow the Owner to make good such defects and such costs shall be deducted from the balance due the Contractor, or charged to the Contractor in the event no payment is due.

1.03 CLOSEOUT DOCUMENTS

Unless otherwise notified, the Contractor shall submit to the Owner through the Professional, three (3) copies of the following before final payment is made:

- A. **Request for Final Payment:** AIA Document G702, current edition, completed in full or a computer generated form having similar data.
- B. **Consent of Surety Company to Final Payment:** AIA Document G707, current edition, completed in full by the Bonding company.
- C. **Power of Attorney:** Closeout documents should be accompanied by an appropriate Power of Attorney.
- D. **Release of Liens and Certification that All Bills Have Been Paid:** AIA Document G706A, current edition, completed in full or a sworn statement and affidavit from the Contractor to the Owner stating that all bills for this job have been paid and that the Owner is released from any and all claims and/or damages.
- E. **Contractor's Affidavit of Payment of Debts and Claims:** AIA Document G706, current edition, completed in full.
- F. **Guarantee of Work:** Sworn statement that all work is guaranteed against defects in materials and workmanship for one (1) year from date of Owner's acceptance, except where specified for longer periods.
 - 1. Word the Guarantee as follows, or in a similar manner:
We hereby guarantee all work performed by us on the above captioned Project to be free from defective materials and workmanship for a period of one (1) year or such longer period of time as may be called for in the Contract Documents for such portions of the Work.
 - 2. All guarantees and warranties shall be obtained in the Owner's name.
 - 3. Within the Guaranty period, if repairs or changes are requested in connection with guaranteed work which, in the opinion of the Owner, are rendered necessary as a result of the use of materials, equipment or workmanship which are inferior, defective or not in accordance with the terms of the Contract, the Contractor shall promptly, upon receipt of notice from and without expense to the Owner, place in satisfactory condition building, site, equipment or contents thereof. The Contractor shall make good any work, materials, equipment or contents of said buildings or site which may be disturbed by fulfilling any such Guaranty.
 - 4. If, after notice, the Contractor fails to proceed promptly to comply with the terms of the Guaranty, the Owner may have the defects corrected and the Contractor and his Sureties shall be liable for all expense incurred.
 - 5. All special guarantees applicable to definite parts of the work stipulated in the Project Manual or other documents forming part of the Contract shall be subject to the terms of this paragraph during the first year of the life of such special guaranty.
- G. **Project Record Document:** Furnish all other record documents as set forth in Section 01720 entitled *Project Record Documents*.
- H. **Additional Documents Specified Within the Project Manual:** Provide all additional certificates, warranties, guarantees, bonds or documents as called for in the individual sections of the Project Manual. The Contractor is responsible for examining the Project Manual for these requirements.

**CLEANING
SECTION 01710**

1.01 DESCRIPTION

- A. **Scope:** Maintain premises and public properties from accumulations of waste, debris and rubbish caused by operations. At completion of work, remove waste materials, rubbish, tools, equipment, machinery and surplus materials and clean all sight-exposed surfaces; leave Project clean and ready for occupancy.

1.02 PRODUCTS

- A. **Materials:** Use only cleaning materials recommended by Manufacturer of surface to be cleaned. Use cleaning materials only on surfaces recommended by the cleaning materials Manufacturer.

1.03 EXECUTION

- A. **During Construction:** Execute cleaning to insure that building, grounds and public properties are maintained free from accumulations of waste materials and rubbish. Wet down dry materials and rubbish to lay dust and prevent blowing dust. At reasonable intervals during progress of work, clean site and public properties and dispose of waste materials, debris and rubbish. Remove waste materials, debris and rubbish from site and legally dispose of at public or private dumping areas off Owner's property. Vacuum clean interior building areas when ready to receive finish painting and continue vacuum cleaning on an as-needed basis until building is ready for substantial completion or occupancy. Handle materials in a controlled manner with as few handlings as possible; do not drop or throw materials from heights. Schedule cleaning operations so that dust or other contaminants resulting from cleaning process will not fall on wet or newly painted surfaces.
- B. **Final Cleaning:** Employ experienced workmen, or professional cleaners, for final cleaning. In preparation for substantial completion or occupancy, conduct final inspection of sight-exposed interior and exterior surfaces and concealed spaces. Remove grease, dust, dirt, stains, labels, fingerprints and other foreign materials from sight-exposed finishes. Repair, patch and touch up marred surfaces to specified finish to match adjacent surfaces. Broom clean paved surfaces; rake clean other surfaces of grounds. Replace air conditioning filters, if units were operated during construction. Clean ducts, blowers and coils if air conditioning units were operated without filters during construction. Maintain cleaning until Project, or respective portions thereof, is occupied by Owner.

**PROJECT RECORD DOCUMENTS
SECTION 01720**

1.01 DESCRIPTION

- A. **Scope:** To set forth the procedure and requirements for keeping project record documents.
- B. **Maintenance Documents:** (modified Dec 2013)
1. Throughout the Contract, maintain one (1) copy of all of the following: Contract Drawings, Project Manual, Addenda, Change Order(s), reviewed shop drawings, reviewed submittals, hardware schedules, field, and laboratory test records, equipment brochures, parts lists, operating instructions and other modifications to the Contract.
 2. Store documents on site apart from documents used for construction.
 3. Maintain documents in clean, dry, legible condition. Do not use record documents for construction purposes.
 4. Make documents available, at all times, for inspection by the Professional, Commissioning Authority Professional, and the Owner.
 5. Keep documents in 8 ½" x 11" loose leaf binders. Clearly label each binder on the spine. Sub-divide with permanently marked tabs of card stock. Provide a main tab for each specification section. Provide sub-tabs for each major piece of equipment or component.
 6. Format for information behind each tabbed piece of equipment/component shall be:
 - a. Contractor/Installer Information: Include address, phone number and contact name. Include emergency service contact information as applicable.
 - b. Manufacturer Information: Include address, phone number and contact name.
 - c. Shop Drawings and Product Data
 - d. Operation and Maintenance Instructions
 - e. Control Drawings

-
- C. **Recording:**
1. **General:** Mark all modifications in red pencil. Keep record documents current. Do not permanently conceal any work until required information has been recorded.
 2. **Contract Drawings:** Legibly mark to record actual construction.
 - a. Horizontal and vertical location of underground utilities and appurtenances referenced to permanent surface improvements.
 - b. Location of internal utilities and appurtenances concealed in construction referenced to visible and accessible features of structure.
 - c. Field changes in dimension and detail.
 - d. Changes made by change order(s) or field order(s).
 3. **Project Manual and Addenda:** Legibly mark up each section to record Manufacturer, trade name, catalog number and Supplier of each product and item of equipment actually installed.
 4. **Shop Drawings:** Maintain as record documents. Legibly mark drawings to record changes made after review.
- D. **Submittal:** At completion of Project, deliver two (2) copies of each record document to the Professional, who will transmit both sets to the Institution or Agency. Additionally, provide to Owner updated As-Built Contract Documents in electronic format utilizing electronic format copy of Contract Documents furnished by Professional or by scanning of marked-up contract Documents. (see also 600.57 and 700.40 regarding electronic As-Built Documents) (modified Dec 2013)

**DIVISION ONE SUPPLEMENT
SECTION 01900**

PART 1 - SUMMARY OF WORK SUPPLEMENT

1.01 WORK SEQUENCE

- A. Owner will occupy the building during construction, coordinate with Owner's Representative in scheduling work to vacate the areas as the Contractor requires.
- B. Construct work in stages as follows:
 - 1. _____
 - 2. _____
 - 3. _____

1.02 PARTIAL OWNER OCCUPANCY

- A. Schedule early completion of designated areas for Owner's usage prior to substantial completion of entire Project.
 - 1. _____
 - 2. _____
 - 3. _____
- B. Owner will occupy areas for purpose of INTENDED BUILDING FUNCTIONS _____
- C. Contractor will provide:
 - 1. Access for Owner's personnel
 - 2. Operation of heating, ventilating, air conditioning and electrical systems
 - 3. _____
- D. Prior to occupancy, execute a *Certificate of Substantial Completion* for designated areas.
- E. Upon occupancy, Owner shall provide:
 - 1. _____
 - 2. _____

PART 2 - ALLOWANCE SUPPLEMENT

2.01 SCHEDULE OF ALLOWANCES

- A. Include in the Bid, for inclusion in the Contract Sum, the amount of \$ N/A _____ for purchase of _____
(Refer to Section _____, _____)
- B. Include in the Bid, for inclusion in the Contract Sum, the amount of \$ _____ for purchase of _____
(Refer to Section _____, _____)

3.01 DESCRIPTION OF ALTERNATES

- A. Alternate Number One.
"NOT USED"
- B. Alternate Number Two.
"NOT USED"
- C. Alternate Number Three.
"NOT USED"
- D. Alternate Number Four.
"NOT USED"
- E. Alternate Number Five.
"NOT USED"

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Minority Tracking or Participation Form
February 2003

This document will serve as a tracking instrument for minority participation in publicly funded construction projects managed by the Owner. This document will aid DFA/BOB in its commitment to encourage minority participation during the bidding process. Your conscientious effort and commitment to help establish good business relations with minority subcontractors, consultants, suppliers, partners and/or joint ventures is greatly appreciated.

Any responses will be deemed public information and may be incorporated into reporting information compiled by the Owner in the following manner: Contractors that listed minority participation, Contractors that did not list minority participation and Contractors that submitted an Incomplete (partially filled-out or blank) form.

Division One

Section 01010 SUMMARY OF WORK

1.01 Work Covered by Contract Documents

F. Subcontractors List

F.1 The Prime General Contractor will submit to the Owner within seven (7) days from the Notice to Proceed, a completed *Minority Tracking Form* (as follows) outlining the use of minority subcontractors that will be used on the project.

Minority - A person who is a citizen or lawful permanent resident of the United States and who is the following: **African American, Hispanic American, Asian American, American Indian or Female**

Project Name and Number: _____

General Contractor: (Name) _____

Check the Following Appropriate Box

There are NO minority participants included in this bid proposal.

There are minority participants included in this bid proposal. The minority participants may be defined as: Subcontractor(s)/Consultant(s)/ Supplier(s) / Partner(s) / Joint Ventures(s).

List minority participants and their discipline/responsibility per the above or per Construction Specification Institution (CSI) sixteen (16) divisions.

Name: _____

Division: _____

Amount \$ _____

Owner

Minority Participation Form

Name: _____

Division: _____

Amount \$ _____

Name: _____

Division: _____

Amount \$ _____

Name: _____

Division: _____

Amount \$ _____

End of Form

Division One

Section 01500 CONSTRUCTION FACILITIES AND TEMPORARY CONTROLS

1.02 Facilities and Controls

J. Project Sign - NOT APPLICABLE

1. The Contractor will erect on adequate supports and maintain one (1) neatly constructed and painted 3/4" thick plywood sign approximately four feet by eight feet (4' x 8'). The Professional will provide the colors, letters, layout and location of the sign. No other signs will be displayed on the job site without permission of the Professional. The displaying of sign advertisements is strictly prohibited

2. Sign to be white background with black lettering/seal. Text style to be Times New Roman. Color of rectangular field at bottom to be selected by Owner. Provide custom Using Agency logo at circular white field of up to three additional colors. No corporate logos for Architect or Contractor shall be permitted. Where additional rendered signage is specified elsewhere, it shall consist of (1) or (2) additional 4'x8' panels, contiguous to the right side of primary project sign.

700.19

PROJECT SIGN - NOT APPLICABLE

The contractor will erect on adequate supports and maintain one (1) neatly constructed and painted 3/4" thick plywood sign approximately four feet by eight feet (4' x 8'). The Professional will provide the colors, letters, layout and location of the sign. No other signs will be displayed on the job site without permission of the Professional. The displaying of sign advertisements is strictly prohibited.

Sign to be white background with black lettering/seal. Text style to be Times New Roman. Color of rectangular field at bottom to be selected by Owner. Provide custom Using Agency logo at circular white field of up to three additional colors. No corporate logos for Architect or Contractor shall be permitted. Where additional rendered signage is specified elsewhere, it shall consist of (1) or (2) additional 4'x8' panels, contiguous to the right side of primary project sign.



(PROJECT SIGN NOT APPLICABLE FOR THIS PROJECT)

THIS PROJECT IS FUNDED BY THE TAXPAYERS OF MISSISSIPPI

GOVERNOR PHIL BRYANT

PROJECT NAME

GS# 111-111

HB1111 or SB1111, LAWS OF 1111

Governing Board

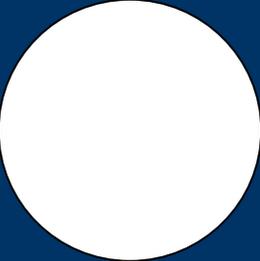
ARCHITECT

ARCHITECT NAME

CONTRACTOR

CONTRACTOR NAME

MISSISSIPPI C.O.R. #11111



USING AGENCY NAME
HEAD OF USING AGENCY NAME

Division One

June 2011

SECTION 02050 - DEMOLITION

PART 1 - GENERAL

1.01 DESCRIPTION

- A. Scope: Demolish and remove from the site certain items of existing construction, as indicated either on the Drawings or in the Specifications, and as required to complete the Work under the Contract. Demolition notes are not all inclusive and shall be interpreted as categories of work.
- B. Refer to requirements of Section 01045 - Cutting and Patching and Section 01710 - Cleaning for additional items relating to work of this Section.

1.02 WORK BY OWNER

- A. None.

1.03 JOB CONDITIONS

- A. Occupancy: Occupancy of renovation areas is described under Section 01900 - Division One Supplement.
- B. Partial Demolition and Removal: Items indicated to be removed but of salvageable value to Owner or Contractor may be removed from structure as work progresses. Transport salvaged items from the work area as they are removed and protect.
- C. Permanent Removal: All materials, fixtures, etc., deemed "trash" by Owner, shall be removed and disposed of away from site, and away from Building.
- D. Protections: Protect all existing finishes and elements to remain, including, but not limited to, existing carpet, terrazzo, granite wall caps, glass entry doors, wood doors and hardware, etc.
- E. Traffic: Conduct demolition operations and removal of debris to ensure minimum interference with roads, streets, walks, and other adjacent occupied or used facilities. Do not barricade stairs and corridors that must remain in use. Do not close or obstruct streets, walks or other occupied or used facilities. All vertical transport of materials, demolished for removal, or new, shall be by the building's freight elevators.
- F. Utility Service: Maintain existing utilities indicated to remain, keep in service, and protect against damage during demolition operations.

1.04 NOTIFICATIONS

- A. Contractor shall give notice of demolition/renovation work, prior to onset of construction, as required by the Mississippi Department of Environmental Quality, as per "State of Mississippi Demolition/Renovation Notification Form".

PART 2 - PRODUCTS

2.01 EQUIPMENT

- A. Equipment used in the execution of the work of this Section shall be a type normally employed for the particular operation for which it is to be used on the Project and must be of a type approved by the Architect and in satisfactory operating condition.

PART 3 - EXECUTION

3.01 PREPARATION AND PROTECTION

- A. Protect all adjacent property and existing construction, including items such as carpet, terrazzo, glass entrances, wood doors, stone elements, etc., with adequate barricades and covers. Construct dust-proof, peel-and-stick membrane-lined partitions to encapsulate the area(s) in which all demolition and new construction will occur. Hanging plastic sheets will not be acceptable.
- C. General Contractor shall provide necessary temporary wall and floor coverings in all wall and floor openings that are being used as paths to and from construction area.
- D. Protections: Ensure safe passage of persons around areas of demolition and construction. Protect existing building surfaces from damage which may result from work required for the project. Damage to existing components of the building shall be repaired to the Owner's satisfaction, or replaced if necessary, at no cost to the Owner.
- E. Specific areas for protection:
 - 1. All areas of existing building not affected by this Phase's demolition or construction work, including all existing finishes and furnishings, shall be protected during demolition and construction from dust, debris, etc.

3.02 UTILITY SERVICES

- A. The removal and/or relocation of existing utility lines is indicated on the Drawings and covered under the respective divisions of these Specifications. Coordinate disruption of utility lines with Owner so that any temporary cut-off of utilities will impose no undue hindrance on Owner.
- B. All holes through existing floors and walls shall be patched to match new and existing construction, whether indicated on Drawings or not. All penetrations exposed to view, and where existing materials are removed, shall likewise be patched to match new and existing construction.

3.03 SALVAGEABLE MATERIALS

- A. Items indicated on Drawings, including, but not limited to:
 - 1. Door/frame
 - 2. Ceiling tile
 - 3. Lights/diffusers per mech./elec. drawings

4. Other items noted

3.04 DEMOLITION

- A. Remove any existing items or construction, whether specifically indicated on the demolition plan or not, whose presence impedes the new construction operations required to complete the Contract.
- B. Remove existing mechanical and electrical as described at mechanical and electrical drawings.

3.05 DISPOSAL OF DEMOLISHED MATERIALS

- A. General: Remove from the site all debris, rubbish, and other materials resulting from demolition operations that the Owner deems "trash".
- B. Transport materials removed from the demolition operations and legally dispose of from the site (burning of combustible materials from demolished structures will not be permitted on the site).

3.06 CLEAN UP AND REPAIR

- A. Upon completion of demolition work, remove tools, equipment and demolished materials away from site. Remove protections and leave interior areas vacuum clean.
 - 1. Clean work area on a daily basis per Section 01710.
 - 2. Conduct final cleaning per Section 01710.

END OF SECTION

SECTION 06100 - CARPENTRY

PART 1 - GENERAL

1.01 DESCRIPTION

- A. Scope: Furnish labor, materials, equipment, services and supervision necessary and reasonably incidental to complete items of carpentry indicated on the Drawings and specified herein.
- B. Related work specified elsewhere:
 - 1. Section 08800 - Glass and Glazing
 - 2. Section 09250 - Gypsum Board System
 - 3. Section 11132 - Projection Screens

PART 2 - PRODUCTS

2.01 LUMBER (BLOCKING)

- A. Use dressed (S4S) lumber unless otherwise indicated.
- B. Southern Pine lumber shall be kiln-dried (KD) to a maximum moisture content of 15%. Pressure-treated lumber shall be re-dried after treatment to a maximum moisture content of 15%. Each piece shall be stamped either "KD" or "MC15".
- C. Western Spruce-Pine-Fir lumber shall be kiln-dried to a moisture content of 19% or less. Each piece shall be stamped "S-DRY".

2.02 INTERIOR STANDING AND RUNNING TRIM MATERIALS

- A. Hardwood lumber for standing and running trim for a painted finish shall be AWI "Custom" grade Poplar.
- B. Materials shall comply with requirements of AWI "Quality Standards", Section 300.
- C. All finish lumber and millwork shall have been dried to a maximum moisture content of 12%, with a minimum moisture content of 8%.

2.03 ROUGH HARDWARE

- A. Furnish items of rough hardware as required to properly secure and assemble the work; i.e., nails, bolts, spikes screws, plates, power-driven fasteners, etc.

PART 3 - EXECUTION

3.01 WORKMANSHIP FOR BLOCKING, NAILERS, FURRING STRIPS, ETC.

- A. Provide wood blocking and nailers within stud walls and partitions as required to attach glass systems, trim, and other items specified in other Sections, and as shown on Drawings.
- B. Wood blocking, nailers, furring strips, etc., shall be shimmed to produce a plumb and true finished surface.

3.02 FINISH CARPENTRY INSTALLATION

- A. Work shall be cut, assembled, and finished at the mill wherever practical, and delivered ready for erection. Where it is necessary to cut portions on the job, materials shall be ordered with ample cutting allowance. Defects, bruises and stain shall be worked out in the cutting. All millwork shall be based on measurements taken at the job. Exposed surfaces shall be machine sanded unless otherwise noted. Mill assemblies shall be joined in accordance with standard practice as recommended by AWI. The best grade commercial glue shall be used. Nails and screws shall be concealed, or as detailed on Drawings. Intersecting moulding at corners shall be neatly mitered.
- B. Finished work shall be plumb, erect, and true and shall be blind nailed or screwed. Blind nails shall be steel set and covered with banding. All woodwork shall be securely nailed to nailing blocks, grounds and furring.
- C. Unless otherwise indicated, all millwork shall comply with "Customs Grade" requirements of AWI "Quality Standards".
- D. All surface nails shall be steel set at mitered corners and near the edge or end of a piece, pre-drill the nail hole to avoid splitting the wood.

END OF SECTION

SECTION 07900 - SEALANTS AND CAULKING

PART 1 - GENERAL

1.01 DESCRIPTION

- A. Scope: Seal and caulk all joints where shown on Drawings, as specified herein, and elsewhere as required to close open joints and to provide a positive barrier against the passage of air or moisture.
- B. Work to be sealed or caulked:
 - 1. Interior
 - a. Perimeter of window and door openings, and solid glass panels.
 - b. Joints between dissimilar materials.
 - c. Other miscellaneous open joints.
- C. Related work specified elsewhere:
 - 1. Section 08800 - Glass & Glazing.
 - 2. Section 09900 - Painting.

1.02 SUBMITTALS

- A. Manufacturer's Literature: Materials description and installation instructions for each compound and filler.

1.03 PRODUCT DELIVERY, HANDLING AND STORAGE

- A. Store and condition the specified products as recommended by the product manufacturer. Storage location shall be so designated by the Owner's Representative.

PART 2 - PRODUCTS

2.01 SEALANT MATERIALS

- A. Interior building sealant/dry locations:
 - 1. "Sonolac Acrylic Latex Caulk", by Sonneborn.
 - 2. Self-priming acrylic latex base caulk.
 - 3. Single component, gun grade.
 - 4. ASTM C834; USDA approved.
 - 5. Colors as selected by Architect.
- B. Backer rod:
 - 1. "Sonofoam Backer-Rod."
 - 2. Resilient closed-cell polyethylene foam extrusion.
- C. Bond Breaker Tape: Type recommended by the sealant manufacturer for the specific joint surface and conditions.
- D. Joint Primer and Cleaner: Type recommended by the sealant manufacturer for the specific joint surface and conditions. If Primer is not used, Contractor must submit to the Owner a letter from the sealant manufacturer stating that it is not required for specific application(s).

PART 3 - EXECUTION

3.01 PREPARATION

- A. Select only sealing compounds of manufacturers who agree to have a qualified representative visit the site at the beginning of the joint sealing work and periodically thereafter as necessary to ensure the proper installation of the sealing compounds and satisfy warranty requirements.
- B. Examine all surfaces to receive the parts of the Work specified herein. All surfaces must be clean, dry, sound and free of frost. At all times, follow the manufacturer's recommendations. Application or installation of material constitutes acceptance of the substrate.
- C. Clean surfaces and remove all sealant and protective coatings, which might fail in adhesion or interfere with bond of compound, so that surfaces are free of deleterious substances which might impair the Work.
- D. Allow painted surfaces to fully cure as recommended by paint manufacturer before installing sealant.

3.02 INSTALLATION, GENERAL

- A. Install all materials in accordance with the manufacturer's printed instructions. Unless otherwise directed, conform with the following:
 - 1. Compounds shall not be installed below a temperature of 40° F unless approved in writing by Architect.
 - 2. Confine compounds to joint areas shown. Use masking tape to prevent staining of adjoining surfaces or spillage and migration of compound out of the joints. Tool surface to shape shown or, if none is shown, to flush or slightly concave surface.

3.03 CLEAN UP

- A. As Work progresses, remove excess compound and clean adjoining surfaces as may be required to eliminate any indication or soiling or migration.
- B. At the conclusion of sealing and caulking work, remove all scaffolding and equipment used in the Work, clean up all debris and surplus material and remove same from the premises.

END OF SECTION

SECTION 08110 - HOLLOW METAL FRAMES

PART 1 - GENERAL

1.01 DESCRIPTION

- A. Scope: Furnish and install the hollow metal frames as indicated on the Drawings and as specified herein.

1.02 COORDINATION

- A. The supplier of hollow metal frames will be furnished with an approved finish hardware schedule and hardware preparation templates as required to properly coordinate his work with that of other trades.

1.03 SHOP DRAWINGS

- A. Submit shop drawings of hollow metal frames and doors to the Architect for approval prior to the fabrication of any work. Shop drawings shall indicate the door opening numbers.

PART 2 - PRODUCTS

2.01 MANUFACTURER

- A. Frames and doors shall be equal to the products of Steelcraft Manufacturing Company. Sizes and details are as indicated on the Drawings.

2.02 HOLLOW METAL FRAMES (WELDED)

- A. Frames shall be F-Series with flush faces of width and detail indicated on the Drawings. Frames shall be set-up and welded full length of joints, with exposed welds ground flush and smooth. Corners shall be mitered. Exposed fasteners will not be permitted, except at glass stops.
1. Interior frames shall generally be manufactured from 16-gauge cold rolled steel conforming to ASTM Specification A366.
- B. Frames shall have 7-gauge steel hinge reinforcing. In addition, top hinge shall be provided with 1 pair of Part No. 30 auxiliary hinge reinforcements, each arc-welded in three places.
- C. Metal plaster guards shall be provided for all mortised cutouts. Provide 12-gauge reinforcement for surface mounted closers.
- D. Frames shall be furnished with wall anchors and base anchors of manufacturer's standard design, and as detailed
- E. Provide steel channel spreader bar tack-weld at bottom of each door frame. Spreader bar shall be left in place until after frame is in place and securely anchored.
- F. Prepare frames for three (3) resilient silencers per strike jamb and two (2) per head for pair of doors.
- G. Frames shall be given a coat of manufacturer's standard rust retardant metal primer, after fabrication.

PART 3 - EXECUTION

3.01 INSTALLATION

- A. Installation shall be by skilled mechanics experienced in such work.
- B. Frames shall be installed plumb, level, true to plane and shall be secured in place as required to resist all forces acting upon them as indicated on manufacturer's shop and erection drawings.
- C. A minimum of three (3) anchors shall be provided at each jamb. Anchors shall be installed immediately above or below each hinge reinforcement on the hinge jamb and directly opposite the strike on the strike jamb.
- D. All fasteners shall be concealed, except at steel channel glazing stops, and of non-corrosive metals.
- E. Touch-up bare or abraded places on metal frames and doors with suitable metal paint primer.

END OF SECTION

SECTION 08210 - WOOD DOORS

PART 1 - GENERAL

1.01 DESCRIPTION

- A. Furnish factory stained and finished wood doors as indicated on the Drawings and as specified herein. Doors shall be installed at 06100.
- B. Related Work specified elsewhere:
 - 1. Section 06100 - Carpentry
 - 2. Section 08710 - Finish Hardware
 - 3. Section 08800 - Glass and Glazing

1.02 QUALITY STANDARDS

- A. Flush wood doors shall comply with applicable requirements of "Architectural Woodwork Quality Standards", Section 1300, of Architectural Woodwork Institute (AWI). Doors shall meet or exceed WDMA "Extra Heavy Duty" Standards and WDMA "Premium" aesthetic, and AWI requirements for:
 - 1. Type PC-5 (non-labeled doors).
 - 2. Type FD 45-5 (45-min. fire barriers).

1.03 SUBMITTALS

- A. Shop Drawings: Submit shop drawings and product data to Architect for approval, prior to ordering doors.
- B. Door Samples: Submit one or more samples (8"x10" minimum) of flush door construction cut from top corner, illustrating expected range of face veneer grain and color.
- C. Custom Factory Finish Samples: Submit ¼" plywood (with veneer of species specified) sample (8"x10" minimum) of the custom stain color, and finish, to match existing. Color cards are not acceptable.

1.04 DELIVERY, STORAGE, AND HANDLING

- A. Package doors in accordance with AWI Quality Standards, Section 1300. Protect doors with resilient packaging (sealed with heat shrunk plastic wrap). Break seals on-site to permit ventilation.
- B. Deliver, store, protect and handle doors to and on-site in accordance with requirements of the manufacturer, AWI Quality Standards, and provisions of Section 01600.
- C. Do not deliver wood doors to the Project until time for installation or until provisions for proper conditioning of doors are in effect.

1.05 WARRANTY FOR FLUSH DOORS

- A. Doors shall be furnished with manufacturer's written warranty for life of original installation.
 - 1. Any defects discovered during warranty period shall be corrected at no cost to Owner. Such corrective work shall include labor and material removing, repairing, and/or replacement, refinishing, and rehanging as

- required.
2. Include coverage for delamination of veneer, warping beyond specified AWI installation tolerances, defective materials and telegraphing core construction.

PART 2 - PRODUCTS

2.01 MANUFACTURERS

- A. Flush wood doors shall be equal to products of Graham Door Co., or equal.

2.02 FLUSH DOORS (NON-LABELED)

- A. Doors shall be either 5-ply flush veneer GPD series, particleboard core type. Doors shall be 1-3/4" thick.
- B. Typical doors shall be faced with plain sliced, premium grade, select White Birch veneer with AA-Grade faces, for factory finishing.
- C. Edge species solid lumber shall match that of face veneers.
- D. Where view windows are indicated, provide factory-cut openings with select White Birch stops to match other wood stops on this floor. Opening sizes are indicated on Drawings.

2.03 FABRICATION

- A. Doors shall be factory trimmed for hanging and machined for hardware installation.

2.06 DOOR FINISH

- A. Factory finish doors in accordance with AWI Quality Standards, Section 1500. Factory finish shall be water based stain and ultraviolet (UV) cured polyurethane sealer to comply with EPA Title 5 guidelines for Volatile Organic Compound (VOC) emissions limitations. Finish shall meet or exceed performance standards of WDMA TR-6 catalyzed polyurethane.
- B. Factory finish shall be a custom stain color, as selected by Architect, with a satin gloss finish, to match existing doors on this floor.

PART 3 - EXECUTION

3.01 INSTALLATION

- A. Wood doors shall be installed as recommended by the manufacturer and as specified in Section 06100 - Carpentry.
- B. Installation shall be by skilled mechanics experienced in such work and using appropriate electrically-operated tools and equipment.
- C. Provide drilled pilot holes for all screws and bolts.
- D. Finish any cut edges of doors to match factory finish, using procedures and materials furnished by door manufacturer.

END OF SECTION

SECTION 08710 - DOOR HARDWARE

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

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

1.02 SUMMARY

- A. This Section references specification sections relating to commercial door hardware for the following:
 - 1. Swinging doors.
- B. Commercial door hardware includes, but is not necessarily limited to, the following:
 - 1. Mechanical door hardware.
 - 2. Electronic hardware.
- C. Related Sections:
 - 1. Section 08110 - Hollow Metal Frames
 - 2. Section 08210 - Wood Doors
- D. Codes and References: Comply with the version year adopted by the Authority Having Jurisdiction.
 - 1. ANSI A117.1 - Accessible and Usable Buildings and Facilities
 - 2. ICC/IBC - International Building Code
 - 3. NFPA 70 - National Electrical Code
 - 4. NFPA 80 - Fire Doors and Windows
 - 5. NFPA 101 - Life Safety Code
 - 6. NFPA 105 - Installation of Smoke Door Assemblies
 - 7. [State Building Codes, Local Amendments]
- E. Standards: All hardware specified herein shall comply with the following industry standards:
 - 1. ANSI/BHMA Certified Product Standards - A156 Series
 - 2. UL10C - Positive Pressure Fire Tests of Door Assemblies

1.03 SUBMITTALS

- A. Product Data: Manufacturer's product data sheets including installation details, material descriptions, dimensions of individual components and profiles, operational descriptions and finishes.
- B. Door Hardware Schedule: Prepared by or under the supervision of supplier, detailing fabrication and assembly of door hardware, as well as procedures and diagrams. Coordinate the final Door Hardware Schedule with doors, frames, and related work to ensure proper size, thickness, hand, function, and finish of door hardware.
 - 1. Format: Comply with scheduling sequence and vertical format in DHI's "Sequence and Format for the Hardware Schedule."
 - 2. Organization: Organize the Door Hardware Schedule into door hardware sets indicating complete designations of every item required for each door or opening.

- a. Organize door hardware sets in same order as in the Door Hardware Sets at the end of Part 3. Submittals that do not follow the same format and order as the Door Hardware Sets will be rejected and subject to resubmission.
 - 3. Content: Include the following information:
 - a. Type, style, function, size, label, hand, and finish of each door hardware item.
 - b. Manufacturer of each item.
 - c. Fastenings and other pertinent information.
 - d. Location of door hardware set, cross-referenced to Drawings, both on floor plans and in door and frame schedule.
 - e. Explanation of abbreviations, symbols, and codes contained in schedule.
 - f. Mounting locations for door hardware.
 - g. Door and frame sizes and materials.
 - 4. Submittal Sequence: Submit the final Door Hardware Schedule at earliest possible date, particularly where approval of the Door Hardware Schedule must precede fabrication of other work that is critical in the Project construction schedule. Include Product Data, Samples, Shop Drawings of other work affected by door hardware, and other information essential to the coordinated review of the Door Hardware Schedule.
- C. Keying Schedule: Prepared under the supervision of the Owner, separate schedule detailing final keying instructions for locksets and cylinders in writing. Include keying system explanation, door numbers, key set symbols, hardware set numbers and special instructions. Owner to approve submitted keying schedule prior to the ordering of permanent cylinders.
- D. Product Test Reports: Indicating compliance with cycle testing requirements, based on evaluation of comprehensive tests performed by manufacturer and witnessed by a qualified independent testing agency.
- E. Operating and Maintenance Manuals: Provide manufacturers operating and maintenance manuals for each item comprising the complete door hardware installation in quantity as required in Division 01, Closeout Submittals. The manual to include the name, address, and contact information of the manufacturers providing the hardware and their nearest service representatives. The final copies delivered after completion of the installation test to include "as built" modifications made during installation, checkout, and acceptance.
- F. Warranties and Maintenance: Special warranties and maintenance agreements specified in the Related Sections.

1.04 QUALITY ASSURANCE

- A. Manufacturers Qualifications: Engage qualified manufacturers with a minimum [5] years of documented experience in producing hardware and equipment similar to that indicated for this Project and that have a proven record of successful in-service performance.
- B. Installer Qualifications: Installers, trained by the primary product manufacturers, with a minimum [3] years documented experience installing both standard and electrified builders hardware similar in material, design, and extent to that indicated for this Project and whose work has

resulted in construction with a record of successful in-service performance.

- C. Door Hardware Supplier Qualifications: Experienced commercial door hardware distributors with a minimum [5] years documented experience supplying both mechanical and electromechanical hardware installations comparable in material, design, and extent to that indicated for this Project. Supplier recognized as a factory direct distributor in good standing by the manufacturers of the primary materials with a warehousing facility in Project's vicinity. Supplier to have on staff a certified Architectural Hardware Consultant (AHC) available during the course of the Work to consult with Contractor, Architect, and Owner concerning both standard and electromechanical door hardware and keying.
- D. Source Limitations: Obtain each type and variety of Door Hardware specified in the Related Sections from a single source, qualified supplier unless otherwise indicated.
- E. Regulatory Requirements: Comply with NFPA 70, NFPA 80, NFPA 101 and ANSI A117.1 requirements and guidelines as directed in the applicable model building code.
 - 1. Where indicated to comply with accessibility requirements, comply with Americans with Disabilities Act (ADA), "Accessibility Guidelines for Buildings and Facilities (ADAAG)", ANSI A117.1 as follows:
 - a. Handles, Pulls, Latches, Locks, and other Operating Devices: Shape that is easy to grasp with one hand and does not require tight grasping, tight pinching, or twisting of the wrist.
 - b. Door Closers: Comply with the following maximum opening-force requirements indicated:
 - 1) Interior Hinged Doors: 5 lbf applied perpendicular to door.
 - 2) Fire Doors: minimum opening force allowable by authorities having jurisdiction.
 - c. Thresholds: Not more than 1/2 inch high. Bevel raised thresholds with a slope of not more than 1:2.
 - 2. NFPA 101: Comply with the following for means of egress doors:
 - a. Latches, locks, and exit devices: not more than 15 lbf to release the latch. Locks shall not require the use of a key, tool, or special knowledge for operation.
 - b. Thresholds: Not more than 1/2 inch high.
- F. Keying Conference: conduct conference to comply with requirements in Division 01 Section "Project Meetings." Keying conference to incorporate the following criteria into the final keying schedule document:
 - 1. Function of building, purpose of each area and degree of security required.
 - 2. Plans for existing and future key system expansion.
 - 3. Requirements for key control storage.
 - 4. Address and requirements for delivery of keys.
- G. Pre-Submittal Conference: Conduct coordination conference in compliance with requirements in Division 01 Section "Project Meetings" with attendance by representatives of Supplier(s), Installer(s), and Contractor(s) to review proper methods and the procedures for receiving, handling, and installing door hardware.

1.05 DELIVERY, STORAGE, AND HANDLING

- A. Inventory door hardware on receipt and provide secure lock-up and shelving for door hardware delivered to Project site. Do not store electronic access control hardware, software or accessories at Project site without prior authorization.
- B. Tag each item or package separately with identification related to the final Door Hardware Schedule, and include basic installation instructions with each item or package.
- C. Deliver, as applicable, permanent keys, cylinders, cores, access control credentials, software and related accessories directly to Owner via registered mail or overnight package service. Instructions for delivery to the Owner shall be established at the "Keying Conference".

1.06 COORDINATION

- A. Templates: Obtain and distribute to the parties involved templates for doors, frames, and other work specified to be factory prepared for installing standard, electrified and access control hardware. Check Shop Drawings of other work to confirm that adequate provisions are made for locating and installing hardware to comply with indicated requirements.
- B. Door and Frame Preparation: Division 08 Sections (Steel, Aluminum and Wood) doors and corresponding frames, including certain modifications to existing doors and frames to remain, are to be prepared, reinforced and pre-wired (if applicable) to receive the installation of the specified hardware, and electrified, monitoring, signaling and access control system hardware without additional in-field modifications.

1.07 WARRANTY

- A. General Warranty: Reference Division 01, General Requirements. Special warranties specified in this Article shall not deprive Owner of other rights Owner may have under other provisions of the Contract Documents and shall be in addition to, and run concurrent with, other warranties made by Contractor under requirements of the Contract Documents. All warranties shall run from date of Final Project Acceptance.
- B. Special warranty periods:
 - 1. Ten years for mortise locks and latches.
 - 2. Five years for exit hardware.
 - 3. Twenty-five years for manual surface door closers.

1.08 MAINTENANCE SERVICE

- A. Maintenance Tools and Instructions: Furnish a complete set of specialized tools and maintenance instructions as needed for Owner's continued adjustment, maintenance, and removal and replacement of door hardware.
- B. Continuing Service: Beginning at Final Project Acceptance, and running concurrent with the specified warranty period, provide continuous (6) months full maintenance including repair and replacement of worn or defective components, lubrication, cleaning, and adjusting as required for proper door opening operation. Provide parts and supplies as used in the

manufacture and installation of original products.

PART 2 - PRODUCTS

2.01 SCHEDULED DOOR HARDWARE

- A. General: Provide door hardware for each door to comply with requirements in Door Hardware Sets at the end of Part 3 of each referenced section that products are to be supplied under.
- B. Designations: Requirements for quantity, item, size, finish or color, grade, function, and other distinctive qualities of each type of door hardware are indicated in the Door Hardware Sets at the end of Part 3. Products are identified by using door hardware designations, as follows:
 - 1. Named Manufacturer's Products: Product designation and manufacturer are listed for each door hardware type required for the purpose of establishing requirements. Manufacturers' names are abbreviated in the Door Hardware Schedule.
- C. Substitutions: Requests for substitution and product approval for inclusive mechanical and electromechanical door hardware in compliance with the specifications must be submitted in writing and in accordance with the procedures and time frames outlined in Division 01, Substitution Procedures. Approval of requests is at the discretion of the architect, owner, and their designated consultants.

2.02 HANGING DEVICES

- A. Hinges: ANSI/BHMA A156.1 certified butt hinges with number of hinge knuckles as specified in the Door Hardware Sets.
 - 1. Quantity: Provide three (3) hinges per door leaf for all doors.
 - 2. Hinge Size: Provide the following, unless otherwise indicated, with hinge widths sized for door thickness and clearances required:
 - a. Widths up to 3'0": 4-1/2" standard or heavy weight as specified.
 - 3. Hinge Weight and Base Material: Unless otherwise indicated, provide the following:
 - a. Exterior Doors: Heavy weight, non-ferrous, ball bearing or oil impregnated bearing hinges unless Hardware Sets indicate standard weight.
 - b. Interior Doors: Standard weight, steel, ball bearing or oil impregnated bearing hinges unless Hardware Sets indicate heavy weight.
 - 4. Hinge Options: Comply with the following where indicated in the Hardware Sets or on Drawings:
 - 5. Acceptable Manufacturers:
 - a. Hager Companies (HA).
 - b. McKinney Products (MK).
- B. Continuous Geared Hinges: ANSI/BHMA A156.26 certified continuous geared hinge with minimum 0.120-inch thick extruded 6060 T6 aluminum alloy hinge leaves and a minimum overall width of 4 inches. Hinges are non-handed, reversible and fabricated to template screw locations. Provide concealed flush mount (with or without inset), full surface, or half surface, in standard and heavy duty models, as specified in the Hardware Sets. Concealed continuous hinges to be U.L. listed for use on up to and including 90 minute rated door installations and U.L. listed for windstorm

components where applicable. Factory cut hinges for door size and provide with removable service power transfer panel where indicated at electrified openings.

1. Acceptable Manufacturers:
 - a. McKinney Products (MK).
 - b. Pemko Manufacturing (PE).

2.04 CYLINDERS AND KEYING

- A. General: Cylinder manufacturer to have minimum (10) years experience designing secured master key systems and have on record a published security keying system policy.
- B. Source Limitations: Obtain each type of keyed cylinder and keys from the same source manufacturer as locksets and exit devices, unless otherwise indicated.
 1. Acceptable Manufacturers:
 - a. Sargent (SA).
 - b. No Substitution - Facility Standard.
- C. Cylinders: Original manufacturer cylinders complying with the following:
 1. Mortise Type: Threaded cylinders with rings and straight- or clover-type cam.
 2. Rim Type: Cylinders with back plate, flat-type vertical or horizontal tailpiece, and raised trim ring.
 3. Mortise and rim cylinder collars to be solid and recessed to allow the cylinder face to be flush and be free spinning with matching finishes.
 4. Keyway: Match Facility Standard.
- D. Keying System: Each type of lock and cylinders to be factory keyed. Conduct specified "Keying Conference" to define and document keying system instructions and requirements. Furnish factory cut, nickel-silver large bow permanently inscribed with a visual key control number as directed by Owner. Incorporate decisions made in keying conference, and as follows:
 1. Existing System: Master key or grand master key locks to Owner's existing system.
- E. Key Quantity: Provide the following minimum number of keys:
 1. Top Master Key: One (1)
 2. Change Keys per Cylinder: Two (2)
 3. Master Keys (per Master Key Group): Two (2)

2.05 MECHANICAL LOCKS AND LATCHING DEVICES

- A. Mortise Locksets, Grade 1 (Heavy Duty): ANSI/BHMA A156.13, Series 1000, Operational Grade 1 certified mortise locksets furnished in the functions as specified in the Hardware Sets. Locksets to be manufactured with a corrosion resistant, stamped 12 gauge minimum formed steel case and be field-reversible for handing without disassembly of the lock body. Lockset trim (including knobs, levers, escutcheons, roses) to be the product of a single manufacturer. Furnish with standard 2 3/4" backset, 3/4" throw anti-friction stainless steel latchbolt, and a full 1" throw stainless steel bolt for deadbolt functions.
 1. Acceptable Manufacturers:
 - a. Sargent (SA)
 - b. No Substitution - Facility Standard.

2.06 CONVENTIONAL EXIT DEVICES

- A. General Requirements: All exit devices specified herein shall meet or exceed the following criteria:
1. At doors not requiring a fire rating, provide devices complying with NFPA 101 and listed and labeled for "Panic Hardware" according to UL305. Provide proper fasteners as required by manufacturer including sex nuts and bolts at openings specified in the Hardware Sets.
 2. Except on fire rated doors, provide exit devices with hex key dogging device to hold the pushbar and latch in a retracted position. Provide optional keyed cylinder dogging on devices where specified in Hardware Sets.
 3. Devices must fit flat against the door face with no gap that permits unauthorized dogging of the push bar. The addition of filler strips is not acceptable except in any case where the door light extends behind the device as in a full glass configuration.
 4. Flush End Caps: Provide heavy weight impact resistant flush end caps made of architectural metal in the same finish as the devices as in the Hardware Sets. Plastic end caps will not be acceptable.
 5. Lever Operating Trim: Where exit devices require lever trim, furnish manufacturer's heavy duty trim with cold forged escutcheons, beveled edges, and four threaded studs for thru-bolts.
 - a. Lock Trim Design: As indicated in Hardware Sets, provide finishes and designs to match that of the specified locksets. Provided free-wheeling type trim where indicated.
 - b. Where function of exit device requires a cylinder, provide an interchangeable core type keyed cylinder (Rim or Mortise) as specified in Hardware Sets.
 6. Vertical Rod Exit Devices: Provide and install interior surface and concealed vertical rod exit devices as Less Bottom Rod (LBR) unless otherwise indicated.
 7. Narrow Stile Applications: At doors constructed with narrow stiles, or as specified in Hardware Sets, provide devices designed for maximum 2" wide stiles.
 8. Rail Sizing: Provide exit device rails factory sized for proper door width application.
 9. Through Bolt Installation: For exit devices and trim as indicated in Door Hardware Sets.
- B. Conventional Push Rail Exit Devices (Heavy Duty): ANSI/BHMA A156.3, Grade 1 certified panic and fire exit hardware devices furnished in the functions specified in the Hardware Sets. Mounting rails to be formed from smooth stainless steel, brass or bronze architectural materials no less than 0.072" thick, with push rails a minimum of 0.062" thickness. Painted or aluminum metal rails are not acceptable. Exit device latch to be investment cast stainless steel, pullman type, with deadlock feature.
1. Acceptable Manufacturers:
 - a. Sargent (SA).
 - b. No Substitution - Facility Standard.

2.07 DOOR CLOSERS

- A. All door closers specified herein shall meet or exceed the following criteria:
1. General: Door closers to be from one manufacturer, matching in design

and style, with the same type door preparations and templates regardless of application or spring size. Closers to be non-handed with full sized covers including installation and adjusting information on inside of cover.

2. Standards: Closers to comply with UL-10C and UBC 7-2 for Positive Pressure Fire Test and be U.L. listed for use of fire rated doors.
 3. Cycle Testing: Provide closers which have surpassed 15 million cycles in a test witnessed and verified by UL.
 4. Size of Units: Comply with manufacturer's written recommendations for sizing of door closers depending on size of door, exposure to weather, and anticipated frequency of use. Where closers are indicated for doors required to be accessible to the physically handicapped, provide units complying with ANSI ICC/A117.1.
 5. Closer Arms: Provide heavy duty, forged steel closer arms unless otherwise indicated in Hardware Sets.
 - a. Where closers are indicated to have mechanical dead-stop, provide heavy duty arms and brackets with an integral positive stop.
 - b. Where closers are indicated to have mechanical hold open, provide heavy duty units with an additional built-in mechanical holder assembly designed to hold open against normal wind and traffic conditions. Holder to be manually selectable to on-off position.
 - c. Where closers are indicated to have a cushion-type stop, provide heavy duty arms and brackets with spring stop mechanism to cushion door when opened to maximum degree.
 - d. Closers shall not be installed on exterior or corridor side of doors; where possible install closers on door for optimum aesthetics. Provide drop plates or other accessories as required for proper mounting.
 6. Closer Accessories: Provide door closer accessories including custom templates, special mounting brackets, spacers and drop plates, and through-bolt or security type fasteners as specified in the door Hardware Sets.
- B. Door Closers, Surface Mounted (Large Body Cast Iron): ANSI/BHMA A156.4, Grade 1 surface mounted, heavy duty door closers with complete spring power adjustment, sizes 1 thru 6; and fully operational adjustable according to door size, frequency of use, and opening force. Closers to be rack and pinion type, one piece cast iron body construction, with adjustable backcheck and separate non-critical valves for closing sweep and latch speed control.
1. Acceptable Manufacturers:
 - a. Sargent (SA).
 - b. No Substitution - Facility Standard.

2.08 DOOR STOPS AND HOLDERS

- A. General: Door stops and holders to be of type and design as specified below or in the Hardware Sets.
- B. Door Stops and Bumpers: ANSI/BHMA A156.16, Grade 1 certified door stops and wall bumpers. Provide wall bumpers, either convex or concave types with anchorage as indicated, unless floor or other types of door stops are specified in Hardware Sets. Do not mount floor stops where they will impede traffic. Where floor or wall bumpers are not appropriate, provide overhead type stops and holders.
 1. Acceptable Manufacturers:

a. Rockwood Manufacturing (RO).

2.09 FABRICATION

- A. Fasteners: Provide door hardware manufactured to comply with published templates generally prepared for machine, wood, and sheet metal screws. Provide screws according to manufacturers recognized installation standards for application intended.

2.10 FINISHES

- A. The designations used in schedules and elsewhere to indicate hardware finishes are those listed in ANSI/BHMA A156.18 or traditional U.S. finishes shown by certain manufacturers for their products.

PART 3 - EXECUTION

3.01 EXAMINATION

- A. Examine scheduled openings, with Installer present, for compliance with requirements for installation tolerances, wall and floor construction, and other conditions affecting performance.
- B. Notify architect of any discrepancies or conflicts between the door schedule, door types, drawings and scheduled hardware. Proceed only after such discrepancies or conflicts have been resolved in writing.

3.02 PREPARATION

- A. Hollow Metal Doors and Frames: Comply with ANSI/DHI A115 series.
- B. Wood Doors: Comply with ANSI/DHI A115-W series.

3.03 INSTALLATION

- A. Install each item of mechanical and electromechanical hardware and access control equipment to comply with manufacturer's written instructions and according to specifications.
1. Installers are to be trained and certified by the manufacturer on the proper installation and adjustment of fire, life safety, and security products including: hanging devices; locking devices; closing devices; and seals.
- B. Mounting Heights: Mount door hardware units at heights indicated in following applicable publications, unless specifically indicated or required to comply with governing regulations:
1. Standard Steel Doors and Frames: DHI's "Recommended Locations for Architectural Hardware for Standard Steel Doors and Frames."
 2. Wood Doors: DHI WDHS.3, "Recommended Locations for Architectural Hardware for Wood Flush Doors."
 3. Where indicated to comply with accessibility requirements, comply with ANSI A117.1 "Accessibility Guidelines for Buildings and Facilities."
 4. Provide blocking in drywall partitions where wall stops or other wall mounted hardware is located.
- C. Retrofitting: Install door hardware to comply with manufacturer's

published templates and written instructions. Where cutting and fitting are required to install door hardware onto or into surfaces that are later to be painted or finished in another way, coordinate removal, storage, and reinstallation of surface protective trim units with finishing work specified in Division 9 Sections. Do not install surface-mounted items until finishes have been completed on substrates involved. Where existing hardware holes remain in door, install oversized closure plates at door faces and jambs as required to seal door, prior to installing new hardware.

- D. Storage: Provide a secure lock up for hardware delivered to the project but not yet installed. Control the handling and installation of hardware items so that the completion of the work will not be delayed by hardware losses before and after installation.

3.04 FIELD QUALITY CONTROL

- A. Field Inspection: Supplier will perform a final inspection of installed door hardware and state in report whether work complies with or deviates from requirements, including whether door hardware is properly installed, operating and adjusted.

3.05 ADJUSTING

- A. Initial Adjustment: Adjust and check each operating item of door hardware and each door to ensure proper operation or function of every unit. Replace units that cannot be adjusted to operate as intended. Adjust door control devices to compensate for final operation of heating and ventilating equipment and to comply with referenced accessibility requirements.

3.06 CLEANING AND PROTECTION

- A. Protect all hardware stored on construction site in a covered and dry place. Protect exposed hardware installed on doors during the construction phase. Install any and all hardware at the latest possible time frame.
- B. Clean adjacent surfaces soiled by door hardware installation.
- C. Clean operating items as necessary to restore proper finish. and provide final protection and maintain conditions that ensure door hardware is without damage or deterioration at time of owner occupancy.

3.07 DOOR HARDWARE SETS

- A. The door hardware sets represent the design intent and direction of the owner and architect. They are a guideline only and should not be considered a detailed hardware schedule. Discrepancies, conflicting hardware and missing items should be brought to the attention of the architect with corrections made prior to the bidding process. Omitted items not included in a hardware set should be scheduled with the appropriate additional hardware required for proper application and functionality.

- B. The supplier is responsible for handing and sizing all products as listed

in the door hardware sets. Quantities listed are for each pair of doors, or for each single door.

C. Products listed in the Door Hardware Sets are to be provided under and meet the requirements described in 08710 hereinbefore.

D. Manufacturer's Abbreviations:

1. SA - Sargent
2. MK - McKinney
3. PE - Pemko
4. RO - Rockwood
5. SU - Securitron

Hardware Schedule

NOTE: Verify that proposed hardware finishes match existing hardware finishes on this floor.

Set: 1

Doors: 2, 4

3 Hinges	TA2714- 41/2" X 41/2" X NRP	652	MCK
1 Exit Device	43-8843 ETA L/C	630	SA
1 Cylinder	MATCH EXISTING SYSTEM	630	SA
1 Electric Strike	9600	630	SU
1 Smart Pak III	2005M3		SU
1 Buzzer	2006M		SU
1 Closer	351 P10	EN	SA
1 Kick Plate	K1050-8" X 2" LDW CSK 4BE	US32D	RO
1 Power Supply	BPS-12/24-1		SU
1 Wall Stop	409	630	RO
1 Door Seal	S88D-LAR		PE
1 Card Reader	(BY OWNER)		
1 Riser Diagram	SEE ELEC.		SA
1 Wiring Diagram	SEE ELEC.		SA

Notes: 1. Access is gained by presenting a valid credential to the reader. This releases the electric strike for a preset time interval allowing door to be opened. When interval expires, strike relocks and door is secured when closed. Door may also be opened by mechanical key override. Strike is FAIL SECURE and remains locked in the event of power loss.

Set: 2

Door: 3

3 Hinges	TA2714- 41/2" X 41/2"	652	MCK
1 Office Lock	8255 LNA L/C	630	SA
1 Cylinder	MATCH EXISTING SYSTEM	630	SA
1 Wall Stop	409	630	RO
1 Door Seal	S88D-LAR		PE

END OF SECTION

SECTION 08800 - GLASS AND GLAZING

PART 1 - GENERAL

1.01 DESCRIPTION

- A. Scope: Provide the glass and glazing operations as indicated on the Drawings and as specified herein.
- B. Related work specified elsewhere:
 - 1. Section 08210 - Wood Doors

1.02 DELIVERY, STORAGE AND HANDLING

- A. If glass is delivered to job site for storage prior to installation, deliver in cartons or crates and store so that glass is supported on edges. Do not lay flat.
- B. Deliver glazing compounds and sealants in original unopened containers with labels intact and legible.

1.03 MANUFACTURER'S WARRANTY

- A. Manufacturer's standard one-year warranty.

PART 2 - PRODUCTS

2.01 MANUFACTURERS

- A. Glass: Pilkington North America, Inc., Toledo, OH, ph 419-247-3731, or Equal.
- B. Solid glass clerestorey panels: OldCastle BuildingEnvelope, Terrell, TX, ph 972-551-6114, or equal. It is intended that a single manufacturer shop-fabricate the entire glazing system, comprised of the components specified below, and ship to job ready for installation.
- C. Glazing tapes and compounds: Equal to products of Tremco.

2.02 QUALITY STANDARDS

- A. Tempered safety glass shall comply with:
 - 1. ASTM C 1036 and ASTM C 1048.
 - 2. ANSI Z97.1.
 - 3. CPSC Standard 16 CFR 1201.
- B. Float glass shall comply with:
 - 1. Federal Specifications DD-G-451d
 - 2. ASTM C 1036.

2.03 MATERIALS

- A. Glass #1:
 - 1. Clear Tempered Glass:
 - 2. Quality: ASTM C1036, Type I transparent flat, Class 1 clear, Quality q3 glazing select.

3. Type: ASTM C1048, fully tempered, with tongless horizontal tempering.
 4. Exposed edges: polished smooth.
 5. Thickness: 1/2" thick.
- B. Glass #2:
1. Clear tempered safety glass.
 2. 1/4" thickness, glazing quality.
 3. (pencil polish all exposed edges, such as at all millwork and shelving applications)
- C. Clerestory window fittings: Full rails, top and bottom, full width of opening, plus at vertical jambs.
1. Square design, equal to U.S. Horizon Mfg., Inc., model #AU-LP12-BN. Finish: brushed nickel.
- D. Glazing Sealant:
1. Type: Silicone, one-part, conforming to ASTM C920, Type S, Grade NS.
 2. Colors: Custom as selected by Architect.
 3. Primer: When required by sealant manufacturer, type as recommended.
 4. Acceptable product (glass to glass):
 - a. 999 Silicone Building and Glazing Sealant, Dow Corning Corp., Midland, MI.
 - b. Silglaze N, General Electric Co., Waterford, NY.
 5. Acceptable products (glass to metal):
 - a. 795 Silicone Building Sealant, Dow Corning Corp., Midland, MI.
 - b. Silpruf, General Electric Co., Waterford, NY.
- E. Acoustical Sealant:
1. USG Acoustical Sealant.
 2. ASTM C919.
- F. Glazing tape:
1. Tremco 440, or equal.
 2. Comply with AAMA Spec. 804.1
- G. Setting blocks:
1. Neoprene, 70-90 durometer hardness
 2. Chemically compatible with materials which it contacts.
- H. Spacers:
1. Neoprene, 40-50 durometer hardness
 2. Chemically compatible with materials which it contacts.

PART 3 - EXECUTION

3.01 INSTALLATION OF GLASS

- A. Clean stops, channels and setting areas with methylethylketone.
- B. Backbed with glazing tape or glazing compound where required for weatherproof seal.
- C. Install glass by pressing firmly into tape or compound and set stops, gaskets or other devices furnished as part of the frame assembly.
- D. Install with glass labels intact.

- E. Safety glass, tempered as well as laminated, shall be installed so that the permanent, factory-installed, compliance monogram will be visible and easily readable after installation.
- F. Except where fully resilient glazing gaskets are furnished, provide a minimum 1/8" thickness of glazing compound between face of stops and each face of glass, particularly assuring that no vibration or rattling occurs in hollow metal sashes that contain operable doors.

3.02 INSTALLATION OF CLERESTOREY GLASS SYSTEM

- A. Install in accordance with manufacturer's printed instruction, details and approved shop drawings, and per AAMA SFM-1.
- B. Erect true to line, plumb, level, square and in proper planes with other work, free from twists, sags, waves, buckles or other objectionable defects.
- C. Provide anchorage to safely resist stresses to which members will normally be subjected.
- D. Anchor securely in place allowing for required movement including expansion and contraction.
- E. Separate dissimilar materials at contact point, including metal in contact with masonry or concrete surfaces, with bituminous paint or preformed separators to prevent contact and corrosion.
- F. Acoustical sealant installation: set all aluminum edge channels in solid bed of acoustical sealant.
- G. Glazing Sealant Application:
 - 1. Follow sealant manufacturer's surface preparation and application instructions without exception.
 - 2. Ensure sealant bonding surfaces are sound, clean, dry and free of contamination.
 - 3. Clean glass edges and surfaces in contact with glazing sealant with cleaner recommended by manufacturer.
 - 4. Mask areas adjacent to joints if necessary to obtain neat sealant line.
 - 5. Tool sealant concave and remove masking tape immediately.
 - 6. Clean excess sealant from adjacent surfaces while in uncured stage with recommended solvent.

3.03 PROTECTION

- A. Protect all glass and glazing from damage during the construction period.
- B. In-place glass in the vicinity of welding activity shall be protected from damage by the welding operations.
- C. The Contractor shall replace any in-place glass damaged as a result of the construction operations.

END OF SECTION

SECTION 09250 - GYPSUM BOARD SYSTEMS

PART 1 - GENERAL

1.01 DESCRIPTION

- A. Scope: Provide gypsum drywall systems as indicated on the Drawings and as specified herein.
- B. This Section includes, but is not limited to, the following items of work:
 - 1. Light gauge steel stud partition and furring systems.
 - 2. Interior drywall finishes, painted.
 - 3. Acoustical insulation.
 - 4. Acoustical caulking.
- C. Related work specified elsewhere:
 - 1. Acoustical ceilings: Section 09500 - Acoustical Ceilings.
 - 2. Painting: Section 09900

1.02 APPLICATOR

- A. The applicator for Work required by this Section shall be an approved drywall subcontractor with full-time drywall business.
- B. The applicator shall be acceptable to and be approved by the manufacturer of drywall materials used in the Work.

1.03 PRODUCT DELIVERY, HANDLING AND STORAGE

- A. Materials shall be delivered in their original unopened packages and stored in an enclosed shelter providing protection from damage and exposure to the elements. Damaged or deteriorated materials shall not be used in the work and shall be removed from the premises.
- B. Store wallboard flat, off floor, so that long lengths are not over short lengths.

1.04 SUBMITTALS

- A. Submit product data sheets for every item specified, including gypsum wallboard, trim, framing, joint treatments, anchorage, insulation, caulks, etc.

1.05 REFERENCES

- A. "Recommended Levels of Gypsum Board Finish".

PART 2 - PRODUCTS

2.01 MANUFACTURERS

- A. Materials, assemblies and methods shall generally be those of United States Gypsum Company (USG), as specified, or approved equal.
- B. Generally, the materials, assemblies and methods of a single manufacturer shall be used throughout the work.

2.02 PRODUCTS

- A. Interior partition framing components:
1. Steel Studs:
 - a. Typical studs shall be full-height ST20. Stud widths as required by Drawings. Studs generally shall be spaced on 16" centers, except where noted otherwise on the Drawings.
 - b. Full-height doubled ST20 jamb studs are required at each jamb of openings. Stud widths as required by Drawings.
 2. Steel runners:
 - a. Runners shall be CR20. Runner widths as required by Drawings.
 3. Furring channels: DWC-25 (depth as shown on Drawings).
 4. Material:
 - a. Cold-rolled galvanized sheet steel meeting requirements of ASTM A446 and ASTM C645. Galvanizing shall be G40 (.4 ounce/sq. ft.) and minimum yield strength shall be 33,000 psi.
- B. Gypsum wallboard panels:
1. Typical wallboard (walls and ceilings, to be of a UL Classified Company):
 - a. Sheetrock "Mold Tough" panels, 5/8" thick, typically.
 - b. ASTM D3273, C1396, C630, E136, E84.
 - c. Tapered longitudinal edges.
 2. Abuse-resistant gypsum wallboard panels (to height of 48" A.F.F.):
 - a. Abuse-resistant wallboard (gypsum board walls, to be of a UL Classified Company):
 1. Sheetrock "Mold Tough AR" panels, 5/8" thick.
 2. ASTM C473, C1629 (abrasion resistance - Level 2; hard body impact - Level 1), C1396, E84.
 3. Tapered longitudinal edges.
- C. Fasteners (gypsum board):
1. Runners to concrete slabs and steel members: As recommended by the exterior wall framing material's manufacturer, for 25 psf horizontal loading on the exterior wall.
 2. Studs to runners: As recommended by the exterior wall framing material's manufacturer, for 25 psf horizontal loading on the exterior wall.
 3. Wallboard to metal studs and metal furring channels:
 - a. 25 gauge studs - 1-1/8" Type S Bugle Head Screws.
 - b. 20 gauge studs - 1-1/8" Type S or S-12 Bugle Head Screws.
 - c. 16 gauge studs - 1-1/8" Type S-12 Bugle Head Screws.
- D. Accessories and trim shapes (plastic trim will not be accepted):
1. External corner reinforcement: No.800 Corner Bead.
 2. Edge trim: No. 200-A, J-shaped trim, or No. 200-B, L-shaped trim, 5/8" size, as shown on Drawings (all trim shall be floatable).
 3. Aluminum Reveal Trims, as manufactured by Fry Reglet Corporation, telephone (800) 237-9773.
 - a. "Z" Reveal Moulding: Cat. No. DRMZ-625-375 (5/8" x 3/8"), where shown on Drawings.
 - b. "L" Trim Moulding: Cat. No. DC.2 for 5/8" gyp. bd.
- E. Joint finishing:
1. Perf-A-Tape Reinforcing Tape.
 2. All-Purpose Ready-Mixed Joint Compound.

- F. Acoustical insulation:
 - 1. Thermafiber "Sound Attenuation Fire Blanket" (SAFB unfaced).
 - 2. 3" typical thickness x width to fit stud spacing typical thickness.
- G. Acoustical sealant:
 - 1. USG Acoustical Sealant.
 - 2. ASTM C919.

PART 3 - EXECUTION

3.01 PARTITION AND WALL FRAMING INSTALLATION

- A. Installation shall be in strict accordance with code requirements and instructions of the materials manufacturer. The following are minimum requirements:
 - 1. Attach steel runners at base and head to structural elements with suitable fasteners located 2" from each end and spaced on 16" centers at interior partitions.
 - 2. Position studs vertically, engaging base and head runners and spaced typically on 16" centers at interior partitions. All metal studs shall extend unspliced from floor up to the overhead structure. Place studs in direct contact with all door frame jambs, window jambs, abutting partitions, partition corners and masonry construction elements. Brace studs with kickers at each stud where span is unstable.
 - 3. Anchor all studs to base and ceiling runner flanges with screws through each vertical leg of each runner channel.
 - 4. At framed openings, place horizontally a cut-to-length section of runner, with a web-flange bend at each end, and secure with one screw per flange at interior partitions and two screws per flange at exterior walls. Position a cut-to-length stud (extending to base/head runner) at typical spacing over/under the header.
 - 5. At framed openings (including doors and windows), provide doubled 20-gauge jamb studs at interior partitions.
 - 6. At all gypsum board edge conditions, provide continuous metal stud "blocking" cut between primary studs, or light-gauge metal angles, for anchorage of gypsum board. Under no circumstances shall gypsum board edges not be screwed to metal framing.

3.02 GYPSUM WALLBOARD INSTALLATION

- A. Position ends and edges of gypsum wallboard over framing members, except when joints are at right angles to framing members as in horizontal panel application.
- B. Stagger end joints in successive courses with joints on opposite sides of a partition placed on different studs.
- C. Attach wallboard to framing members with power-driven screws. Space fasteners not less than 3/8" from edges and ends of panels. Drive fasteners in field of wallboard first, working towards ends and edges. Hold wallboard in firm contact with framing while driving fasteners. Wallboard fasteners shall be spaced typically on 12" centers.
- D. At free-standing partitions, wallboard on one face of partitions shall extend full-height to the underside of the overhead structure.

- E. Wallboard in concealed spaces shall have joints bedded and taped, and screws filled, as a 1-coat joint treatment application. All other joint treatment application shall comply with the manufacturer's detailed instructions for 3-coat joint treatment.
- F. At any location where gypsum board comes into contact with another construction material, i.e. wood, masonry, aluminum, steel, etc., the gypsum board shall be terminated against the dissimilar material with the no.200-A J-trim or 200-B L-trim specified. The joint shall be left dry (no mud or caulk), and shall be cleaned of any such materials that encroach into the joint. Caulk joint half full.
- G. Control joints: Install control joints in all gypsum board surfaces, including walls and ceilings, in stairwells, shaft walls, etc., at 30' o.c. maximum, or where shown on Drawings. At non-rated conditions, construct control joints with double studs, providing back-to-back metal trims (200-A or 200-B) as detailed on Drawings, leaving space as detailed between trims. At fire-rated conditions, use USG control joint 093 over double studs at each control joint.
- H. Where recessed lighting fixtures, air conditioning diffusers, access panels, etc., occur in wallboard ceilings, the drywall applicator shall be responsible for coordinating the entire ceiling layout and for the correct locations of all openings in such ceilings.
- I. Provide hanger wire within 6" of all corners of each recessed light troffer.
- J. Install gypsum wallboard and treat joints in accordance with United States Gypsum "Gypsum Construction Handbook", latest edition, and application USG Construction Bulletins or Pamphlets. Gypsum board finish level shall be "Level 5", per "Recommended Levels of Gypsum Board Finish".
- K. At acoustical partitions (those with acoustical batts) provide acoustical sealant at floor line, at ends of partition where partition abuts perpendicular partitions, and at perimeter of cut-outs as required to close cracks around outlet boxes, etc.

3.03 ACOUSTICAL WALL INSTALLATION

- A. At all wall types (see sheet TS) indicating acoustical batts at 3-5/8" stud construction, such partitions shall be constructed per provisions of SA-870717 to attain an STC rating of 49, to include acoustical batts, acoustical caulk, etc.

3.04 ACOUSTICAL CAULK

- A. Install acoustical caulk at all openings and crevices of any partition receiving sound attenuation batts, or elsewhere shown on Drawings.

3.05 ACOUSTICAL INSULATION INSTALLATION

- A. At acoustical partitions where shown on Drawings, install insulation blankets (SAB) in accordance with the manufacturer's instructions. Acoustical insulation shall extend the full height of partitions.

- B. Tightly butt ends and sides of acoustical insulation blankets within the stud spaces. Cut small pieces of acoustical insulation blankets for narrow stud spaces, at partition intersections and adjacent to door frames, being careful to completely fill all voids of the hollow metal door frames.

END OF SECTION

SECTION 09500 - ACOUSTICAL CEILINGS

PART 1 - GENERAL

1.01 DESCRIPTION

- A. Scope: Furnish and install new acoustical ceilings, or extend existing ceilings to new construction, where indicated on the Drawings and as specified herein to include:
 - 1. 24" x 24" lay-in acoustical panels supported by exposed grid suspension system to match existing.
- B. Furnish and install acoustical insulation above lay-in ceilings where shown on Drawings. See 09250.

1.02 SUBMITTALS

- A. Submit samples of all acoustical panels and tiles for Architect's review and approval.
- B. Submit manufacturer's product data, including storage, handling, and installation instructions.
- C. Submit manufacturer's recommended maintenance and cleaning instructions.

1.03 ENVIRONMENTAL CONDITIONS

- A. Materials shall be installed under standard occupancy conditions from 60° to 85° F, and not more than 70% relative humidity, in an enclosed building with the mechanical HVAC equipment in operation.

1.04 COORDINATION

- A. Contractor shall verify all measurements and dimensions at the jobsite and he shall coordinate and schedule his work with the work of other trades affected by his installation, with particular attention given to Mechanical and Electrical Trades.
- B. Ceiling subcontractor shall carefully coordinate ceiling grid installation with headboxes for Projection Screens, Section 11132. A pre-installation conference shall be scheduled before grid is set in rooms to receive such screens.

1.05 REFERENCED STANDARDS

- A. Acoustical Testing Agency Qualifications: An independent testing laboratory, or an NVLAP-accredited laboratory.
- B. Fire-Test-Response Characteristics:
 - 1. Fire-Resistance Characteristics: Where indicated, provide acoustical tile ceilings identical to those of assemblies tested for fire resistance per ASTM E 119 by UL or another testing and inspecting agency acceptable to authorities having jurisdiction.
 - a. Identify materials with appropriate markings of applicable testing and inspecting agency.
 - 2. Surface-Burning Characteristics: Acoustical tiles complying with ASTM E 1264 for Class A materials, when tested per ASTM E 84.

- a. Smoke-Developed Index: 450 or less.
- C. Seismic Standard: Comply with the following:
 - 1. Standard for Ceiling Suspension Systems Requiring Seismic Restraint: Comply with ASTM E 580.
 - 2. CISCA's Recommendations for Acoustical Ceilings: Comply with CISCA's "Recommendations for Direct-Hung Acoustical Tile and Lay-in Panel Ceilings--Seismic Zones 0-2."
- D. Comply with the following, as applicable:
 - 1. ASTM C635, "Standard Specifications for the Manufacture, Performance, and Testing of Metal Suspension Systems for Acoustical Tile & Lay-In Panel Ceilings".
 - 2. ASTM C636, "Standard Practice for Installation of Metal Ceiling Suspension Systems for Acoustical Tile & Lay-In Panels".
 - 3. ASTM E84 (UL-723), Surface Burning Characteristics of Building Materials (Fire-Hazard Test).

PART 2 - PRODUCTS

2.01 ACOUSTICAL TILE CEILINGS, GENERAL

- A. Acoustical Tile Standard: Comply with ASTM E 1264.
- B. Metal Suspension System Standard: Comply with ASTM C 635.
- C. Attachment Devices: Size for five times the design load indicated in ASTM C 635, Table 1, "Direct Hung," unless otherwise indicated. Comply with seismic design requirements.
 - 1. Anchors in Concrete: Expansion anchors fabricated from corrosion-resistant materials, with holes or loops for attaching hangers of type indicated and with capability to sustain, without failure, a load equal to five times that imposed by ceiling construction, as determined by testing per ASTM E 488 or ASTM E 1512 as applicable, conducted by a qualified testing and inspecting agency.
- D. Wire Hangers, Braces, and Ties: Zinc-coated carbon-steel wire; ASTM A 641/A 641M, Class 1 zinc coating, soft temper.
 - 1. Size: Select wire diameter so its stress at 3 times hanger design load (ASTM C 635, Table 1, "Direct Hung") will be less than yield stress of wire, but provide not less than 0.106-inch- diameter wire.
- E. Seismic struts and seismic clips.
- F. Metal Edge Moldings and Trim: Edge molding to be wall angle to match existing.

2.02 ACOUSTICAL PANELS

- A. Panels shall be UL-rated Cirrus 15/16" Angled Tegular High NRC Tile, product of Armstrong, 24" x 24" x 7/8" thick with reveal edge, Item No. 556, with NRC of .75 and CAC of 35, at all 2' x 2' grid (match existing tile). Provide 30-year guarantee against visible sag and mold, mildew, and bacteria.

2.03 SUSPENSION SYSTEM FOR ACOUSTICAL PANELS (LAY-IN)

- A. Suspension system components shall be as follows:
 - 1. Basis-of-Design Product: Subject to compliance with requirements, provide the product indicated below:
 - a. Armstrong World Industries, Inc.; 15/16" Prelude, in a 24" x 24" grid.
 - 1) Color: White
 - 2. Direct Hung Suspension System: Intermediate duty structural classification.

2.05 SUSPENSION SYSTEM DESIGN

- A. All suspension systems shall be designed, furnished and installed in accordance with methods recommended by the Acoustical Materials Association. Members of sufficient size and strength shall be used to limit the simple span total load deflection to span/360. Load tabulations shall include items which are furnished by other trades, but which are supported by the suspension system: i.e., light fixtures, diffusers, access panels, etc. All allowable load carrying capacity of members shall be determined by the manufacturer as a result of physical load tests conducted in accordance with methods and procedures recommended by AMA.
- B. Modify systems components as required when Drawings indicate miscellaneous areas where grid pattern is other than the panel sizes specified.

2.06 ACOUSTICAL INSULATION

- A. Thermafiber "Sound Attenuation Fire Blankets" (SAFB Unfaced).
 - 1. 3" thickness x width to suit job conditions.

PART 3 - EXECUTION

3.01 CEILING INSTALLATION

- A. Acoustical materials and suspension systems shall be installed in accordance with applicable requirements of ASTM C636 and CISCA's "Ceiling Systems Handbook".
- B. Install wall moulding at intersection of suspended ceiling and all vertical surfaces. At moulding corners, provide corner cap trim. At sloping ceilings modify wall angles as required so that lower flange will be parallel with the ceiling.
- C. Provide hold-down clips at all cut tiles around perimeter.
- D. After light fixtures have been placed, install additional wire hanger at each corner of grid in which fixture is located if it is recessed and 4' on center along fixture line if they are surface mounted.
- E. After air distribution system is completed, add wire hanger at each corner of grid in which diffusers occur.
- F. Where reveal-edge tile must be cut, shape cut edge to match standard factory edges and paint white to match ceiling tile face.

- G. Level the entire grid after all weight is in place, except acoustical material, and tie off all hangers securely.
- H. Carefully set continuous metal edge trim true-to-line, anchoring and suspending per manufacturer's printed instructions. Install concealed splice plates and pre-manufactured inside/outside corners. Attach ceiling grid with concealed grid clips.
- I. Measure each ceiling area and establish layout of acoustical tiles to balance border widths at opposite edges of each ceiling. Avoid using less-than-half-width tiles at borders.
- J. Suspend ceiling hangers from building's structural members, plumb and free from contact with insulation or other objects within ceiling plenum. Splay hangers only where required to miss obstructions; offset resulting horizontal forces by bracing, countersplaying, or other equally effective means. Where width of ducts and other construction within ceiling plenum produces hanger spacings that interfere with location of hangers, use trapezes or equivalent devices. When steel framing does not permit installation of hanger wires at spacing required, install carrying channels or other supplemental support for attachment of hanger wires
 - 1. Do not support ceilings directly from permanent metal forms or floor deck; anchor into concrete slabs.
 - 2. Do not attach hangers to steel deck tabs or to steel roof deck.
- K. Install edge mouldings and trim of type indicated at perimeter of acoustical tile ceiling area and where necessary to conceal edges of acoustical tiles. Screw attach moldings to substrate at intervals not more than 16 inches (400 mm) o.c. and not more than 3 inches (75 mm) from ends, leveling with ceiling suspension system to a tolerance of 1/8 inch in 12 feet (3.2 mm in 3.6 m). Miter corners accurately and connect securely.
- L. Install suspension system runners so they are square and securely interlocked with one another. Remove and replace dented, bent, or kinked members.

3.02 ACOUSTICAL INSULATION INSTALLATION

- A. At acoustical ceilings where shown on Drawings, install insulation blankets (SAB) in accordance with the manufacturer's instructions. Acoustical insulation shall extend tightly between partitions and walls.
- B. Tightly butt ends and sides of acoustical insulation blankets to all confining partitions, and to lights and diffusers. Extend over protrusions through ceilings where practicable. Completely fill all voids over the ceiling plane.

3.03 CLEANING

- A. After installation, all exposed surfaces of acoustical panels and tiles shall be thoroughly cleaned of any dirt, grease, finger marks or other imperfections, with materials recommended by the manufacturer. Any damaged units shall be replaced at no cost to the Owner.

3.04 EXTRA STOCK

- A. Supply an extra 2% of each acoustical panel and tile used for Owner's future use. Acoustical panels and tiles shall be stored in clean, marked boxes.

END OF SECTION

SECTION 09650 - RUBBER BASE

PART 1 - GENERAL

1.01 DESCRIPTION

- A. Scope: Furnish and install rubber base where shown on Drawings and where required to attain a complete and finished project.

1.02 SUBMITTALS

- A. Submit samples for Architect's selection.
- B. Submit product data, including fire test results and recommended adhesives for rubber base.
- C. Submit maintenance data, including recommended cleaning agents.

1.03 PROJECT/SITE CONDITIONS

- A. Environmental Requirements:
 - 1. Store materials at not less than 70 degrees F. for at least 72 hours before installation.
 - 2. Do not install materials if inside temperature is below 70 degrees F.

PART 2 - PRODUCTS

2.01 RUBBER BASE

- A. Rubber cove base shapes in 1/8" thickness, heights to match existing, and 120' lengths, shall be equal to "Wallflowers", product of Marley Flexco Company, Marley Floors Inc, Tuscumbia, AL (800-633-3151).
- B. Inside corners shall be mitered. Outside corners shall be pre-formed. Height of preformed corners shall precisely match height of rubber base.
- C. Color to match existing.

2.02 ADHESIVES

- A. Adhesives used for the installation of rubber base shall be a product of the same manufacturer as the base with which they are used.
- B. Adhesives for rubber base shall be compatible with the various wall materials/finishes and shall be as recommended by Flexco.

PART 3 - EXECUTION

3.01 INSPECTION

- A. Inspect surfaces scheduled to receive base for acceptability.
- B. Verify all surfaces as clean and free from moisture, paint, oil, grease and wax.

3.02 PREPARATION

- A. All wall surfaces, to be covered with rubber base, shall be smooth and solid. All voids, cracks and joints shall be filled solid at wall areas to be covered with rubber base.

3.03 INSTALLATION

- A. Temperature shall be maintained at not less than 70 degrees F. during and 72 hours immediately before and after installation.
- B. Provide rubber base at wood cabinets, unless otherwise noted.
- C. Rubber base must follow the contour of the wall. Where walls change plane, a prefabricated base corner piece shall be cut to return to the secondary wall plane. At wall reveals that extend to the floor, cut prefabricated corners so that base can turn into reveal.
- D. Rubber base must always return to a hard surface (for example, at frames that do not extend to the wall face, return base back to frame with prefabricated corner pieces).

3.06 EXTRA STOCK

- A. Supply an extra 2% of each rubber base. Extra stock shall be supplied in clean, marked cartons for Owner's use.

END OF SECTION

SECTION 09680 - CARPET

PART 1 - GENERAL

1.01 DESCRIPTION

- A. Scope: Provide carpet floor covering in spaces so scheduled on the Drawings.
- B. The carpet sub-contractor shall furnish and install carpeting, including related accessories.

1.02 SUBMITTALS

- A. Samples: 24" x 24" duplicate pieces of each type, color, pattern.
- B. Manufacturer's literature: Specifications, installation instructions, and maintenance instructions with manual.
- C. Fiber requirements: Certification that specified fiber is used.
- D. Certificate of compliance: certification that carpet meets all Performance listed below.
- E. Test report: UL Fire Hazard Classification.

1.03 QUALITY ASSURANCE

- A. Single Source Responsibility: Provide products from a single manufacturer.
- B. Manufacturer: Company specializing in manufacturing commercial carpet with 5 years minimum documented experience.
- C. Installer Qualifications: Installer shall be a firm established not less than 5 years and, if requested, shall submit evidence of having furnished and installed commercial carpet projects of similar size and scope for at least 5 years. Carpet installer shall be mill-certified by carpet manufacturer.

1.04 PREINSTALLATION MEETING

- A. Convene one week minimum prior to commencing work of this Section.
- B. Attendance shall be required of manufacturer, installer, general contractor, and architect.

1.05 PRODUCT DELIVERY, STORAGE, HANDLING, AND ENVIRONMENTAL REQUIREMENTS

- A. Deliver carpet to job site in wrapped rolls. Deliver adhesive in original unopened containers legibly labeled or tagged.
- B. Handle carpet in manner to prevent bending of roll or damage to wrapping.
- C. Store in enclosed building where temperature and humidity are stabilized to levels of occupancy.

- D. Maintain ambient temperature and humidity conditions during and after installation of carpet at levels indicated during occupancy.
- E. Allow carpet to reach room temperature or minimum temperature recommended by manufacturer before beginning installation.
- F. Protect adhesives from freezing.

1.06 WARRANTY

- A. Type 1:
 - 1. Lifetime Limited Modular Warranty
 - 2. Lifetime Limited Duracolor Stain Warranty
 - 3. Lifetime Static
- B. All workmanship and installation shall be guaranteed for a period of one (1) year from Final Project Acceptance.

PART 2 - PRODUCTS

2.01 ACCEPTABLE MANUFACTURERS

- A. Basis of Design shall be the products specified below by The Mohawk Group, 500 TownPark Lane, #400, Kennesaw, GA 30144, 800-554-6637. Equal products will be considered.

2.02 CARPET

- A. Carpet Type 1: Equal to Lees "GT160 Colorbeat Modular"
 - 1. Construction: tufted
 - 2. Surface Texture: textured solid loop
 - 3. Dye system: solution dyed/yarn dyed.
 - 4. Pitch: 1/10
 - 5. Finished Pile thickness: 0.087"
 - 6. Stitches/rows per inch: 13.2
 - 7. Fiber type: Duracolor® Premium Nylon
 - 8. Fiber Technology: Duracolor® by Lees Stain Resistant System. Passes GSA requirements for permanent stain resistant carpet.
 - 9. Color: to be selected by Owner from full range of colors.
 - 10. Density: 9,103; weight density: 200,266.
 - 11. Backing Materials: EcoFlex ICT
 - 12. Installation method: to be glued down with manufacturer's releasable adhesive.
 - 13. Face weight: 22 oz/sq.yd.
 - 14. Pattern repeat: N/A
 - 15. Size: 24" x 24".

2.03 RELATED PRODUCTS

- A. Adhesives: Low VOC type as recommended by carpet manufacturer.
- B. Leveling compound: Latex type as recommended by carpet manufacturer.

PART 3 - EXECUTION

3.01 INSPECTION OF SURFACES TO RECEIVE CARPETS

- A. Inspect all substrates which shall be in a smooth level plane, free from any imperfections and free from dirt and dust. Notify the Contractor, in writing, if any condition exists that would be detrimental to proper installation of the carpet, including slab moisture from construction water infiltration (general Contractor shall be responsible for drying such slabs). Fill and level all cracks, holes, and floor irregularities and depressions to ensure a smooth, finished appearance, and to prevent accelerated wear; floor levelness shall be within 1/8" in 10'. The application of any carpeting shall be an indication of the carpet sub-contractor's acceptance of the sub-surface conditions and he shall be held responsible for any defects after laying the carpet.

3.02 MEASUREMENTS

- A. Carpet subcontractor shall verify all dimensions for carpeting at building site before ordering and cutting carpet.
- B. Submit proposed seam diagram to Architect prior to commencing work..

3.03 INSTALLATION

- A. Recommended installation procedure of manufacturer of carpet shall be followed exactly.
- B. Prime concrete floor only if extremely porous or has excessive dust. Any existing sealer or primer should be tested for compatibility with the carpet manufacturer's approved adhesive.
- C. All carpet tiles should be rolled with a 75 lb. or 100 lb. roller.
- D. Cutting border tiles: Make cuts from the back. Install border tiles by placing the tile face down exactly on top of the last row of field tiles, keeping the arrows pointed in the same directions. This will be the cut tile. Using another tile, butt it against the wall allowing it to lie on top of the tile that is to be cut. Using this tile as a reference tile, score a line on the back of the tile that is to be cut. Cut the tile along the reference line being careful not to cut through the installed tile below. Install the cut tile with the cut edge along the wall. Use this same technique at doorways and other objects that must be cut around. A transition strip must be used to protect any exposed edges.
- E. Remove all rubbish and wrapping paper from job site.
- F. All usable excess pieces of carpet shall be left with the Owner for future repairs, beyond the warranty period, by the Owner.
- G. Lay out carpet to obtain minimum number of seams.
- H. Cut to length required, fitting neatly around projections, recesses, penetrations, etc.
- I. Cement seams and all cut edges, matching pattern at seams.

- J. Apply adhesives uniformly in accordance with manufacturer's recommendations. Cover only that area that can be covered by carpet within the working time of the adhesive. Do not use more than the recommended amount of adhesive. Do not allow adhesive on the face of the carpet.
- K. Install carpet carefully to fit abutting surfaces closely. Broom or roll to remove wrinkles and air pockets. Do not install over hardened adhesive.
- L. Assure smooth transition from one carpet height to a different carpet height using the Johnsonite (or equal) subfloor leveling system, in the appropriate thickness.

3.04 CLEANING AND PROTECTION

- A. Protect adjacent surfaces from adhesive and other damage.
- B. Clean spilled, excessive or misplaced adhesive from surfaces immediately, using recommended solvent where necessary.
- C. Vacuum with commercial beater bar type cleaner.
- D. Protect against traffic and damage until final acceptance.

3.05 EXTRA STOCK

- A. Provide to the Owner four (4) pieces of each color utilized for Carpet Type 1.

END OF SECTION

SECTION 09900 - PAINTING

PART 1 - GENERAL

1.01 DESCRIPTION

- A. Scope: Furnish labor, materials, equipment and supervision necessary to complete the painting and finishing work required by the Drawings and specified hereinafter, including, but not necessarily limited to, view-exposed or weather exposed portions of:
 - 1. Hollow metal frames.
 - 2. Gypsum board.
 - 3. Miscellaneous wood trim shown on Drawings.
 - 4. Miscellaneous other items and surfaces, as noted.
- B. The following surfaces shall NOT be painted this Project:
 - 1. Wood doors (to be factory finished).
 - 2. Existing stone.
- C. Unless otherwise indicated, field painting is not required for items of tin/zinc coated copper, plain copper, brass, bronze, aluminum, stainless steel, chromium and aluminized steel.
- D. Related work specified elsewhere:
 - 1. Section 06100 - Carpentry.
 - 2. Section 07900 - Caulking and Sealants.
 - 3. Section 09250 - Gypsum board.

1.02 DELIVERY AND STORAGE OF MATERIALS

- A. Deliver specified products in original containers with labels intact on each container. All paint materials shall be kept in a locked area assigned to the painting sub-contractor. Use of other parts of the buildings for storage and/or mixing of paint materials is prohibited. Follow all applicable regulations and precautions to prevent fire.

1.03 SUBMITTALS

- A. Submit manufacturer's full and complete color charts and product data sheets, for all materials specified, to Architect for color selection. Field samples of paints and finishes shall be prepared by the Contractor, as required by Architect.
- B. Architect will furnish the Contractor with a schedule of paint colors and finishes, keyed to the surfaces to which they are to be applied.

1.04 FIELD SAMPLES

- A. Provide field samples on walls, floor to ceiling height, 3 feet long, illustrating each color and gloss level selected on the Color Schedule.
 - 1. These samples are required for every color and gloss level selected.
 - 2. Painter to allow for a maximum of three (3) trial samples for each color selected in the Color Schedule with no additional cost to Owner.
- B. Location of sample walls to be where directed by Architect.

C. Accepted samples may remain as part of the work.

1.05 PROJECT/SITE CONDITIONS

A. Environmental Conditions:

1. Do not apply paint and finishes when the temperature of surfaces to be coated, including ambient temperatures, are below 50° F for exterior work and 60° F for interior work. Maximum temperature shall be 110° F.

PART 2 - PRODUCTS

2.01 MATERIALS

- ##### A. Paint Products:
- Materials itemized in the "Schedule of Paints and Finishes" shall be equal to products of Benjamin Moore & Company and other manufacturers as specified. No materials are to be reduced or intermixed, except as directed on the label. In spite of any substitutions that may be approved, all colors shall be selected from color palette of Benjamin Moore, and painter shall be responsible for cross-matching custom colors to other manufacturers.

PART 3 - EXECUTION

3.01 GENERAL

- ##### A. Materials are to be prepared, stored and applied in strict accordance with manufacturer's printed instructions.
- ##### B. Paints, stains and other finishes shall be evenly spread and flowed on, and shall be free from runs, sags, brush marks and other defects. All coats shall be thoroughly dry before applying succeeding coats. Exterior oil paints shall be allowed to dry at least 48 hours between coats; interior oil paints, at least 24 hours between coats.
- ##### C. All primers and undercoats of this Section shall be tinted to approximately the color of the finish coat.
- ##### D. Protect adjacent work and materials with suitable covers and drop cloths during the process on the work.
- ##### E. All surfaces to be painted shall be clean and free of loose paint, dirt, dust or grit before finishing is started. Clean metal surfaces with naphtha or benzene before painting.
- ##### F. Fill nail holes, cracks, and seams in woodwork with putty. Apply putty after prime coat is dry.
- ##### G. If applied prime coat does not dry to a uniform sheen over entire surface, spot prime the areas that indicate suction before applying finish coats.
- ##### H. Clean off all misplaced paint so as to leave the work in a clean and finished condition. Oily rags and waste must be removed from the building at the end of each work day.
- ##### I. Before painting or finishing, remove hardware, fixtures, accessories, plates, and other similar items. Upon completion of each space, replace the above

items.

- J. Prior to commencement of any painting and finishing work, adjacent portions of the building, including floors, shall be vacuumed clean of construction debris and dust.
- K. Cut-in paint neatly around glass and other edges.
- L. At completion of painting and finishing work, remove from the premises all surplus painting materials and all debris. Remove all spattering and leave the work of this Section in a clean and finished condition.
- M. After the specified number of coats of paint and paint products have been applied, if visual inspection indicates non-uniform and/or incomplete coverage, then an additional coat (or coats) shall be applied until uniform and complete coverage is achieved.
- N. Immediately prior to field painting of hollow metal frames, metals shall be hand-sanded to remove mortar splatter, welding flux, and runs and sags from the previous shop coat. Immediately after sanding and cleaning, apply one coat of metal primer to the entire exposed surface of the frames.
- O. All materials shall be applied in accordance with manufacturer's printed instructions, and minimum dry film thicknesses shall be the minimum recommended by manufacturer.

3.02 PROTECTION

- A. Remove all oily rags and waste from the building at the end of each work day. Take every precaution to avoid danger of fire.

3.03 SCHEDULE OF PAINTS AND FINISHES

A. Interior Ferrous Metals:

(Hollow metal frames)

See Paragraph 3.01N hereinbefore for preparation and field prime coat requirements at hollow metal doors and frames.

1. Moore's I.M.C. Alkyd Metal Primer (M06)
2. Moorcraft Super Spec Alkyd Semi-Gloss Enamel (C271)
3. Moorcraft Super Spec Alkyd Semi-Gloss Enamel (C271).

B. Interior Wood - "Opaque" (Painted) Finish (limited wood trim, etc.):

1. Moore's Fresh Start Acrylic Primer #023
2. Ultra Spec Acrylic Semi-Gloss Enamel #N539
3. Ultra Spec Acrylic Semi-Gloss Enamel #N539.

C. Gypsum Board - Low Sheen Finish:

(Typical finish for walls, furring, ceilings)

(Low Sheen or eggshell finish to be selected upon completion of job samples)

1. Moore's Fresh Start Acrylic Primer #023
2. Ultra Spec Acrylic Low Sheen #N537
3. Ultra Spec Acrylic Low Sheen #N537.

D. Gypsum Board - Eggshell Finish:

(Typical finish for walls, furring, ceilings)

(Low Sheen or eggshell finish to be selected upon completion of job samples)

1. Moore's Fresh Start Acrylic Primer #023
2. Moorcraft Ultra Spec Acrylic Low Sheen #N538
3. Moorcraft Ultra Spec Acrylic Low Sheen #N538.

END OF SECTION

SECTION 11132 - PROJECTION SCREENS

PART 1 - GENERAL

1.01 DESCRIPTION

- A. Scope: Furnish and install electrically-operated projection screen, recessed ceiling type, as indicated on the Drawings and as specified herein.
- B. Provide related items and accessories as required to produce a complete installation, and as recommended by the Manufacturer.

1.02 REGULATORY REQUIREMENTS

- A. Conform to the standards, references and codes listed hereinafter, unless modified by this Specification:
 - 1. UL - Underwriters' Laboratories, Inc.
 - 2. National Electric Code and all other applicable codes affecting the work of this section.

1.03 SUBMITTALS

- A. Product Data: Submit manufacturer's product literature, including instructions for installation, operation and maintenance.
- B. Shop Drawings: Submit shop drawings for approval prior to shipment of projection screens. Include recessed case details and dimensions, location and types of anchors for recessed case, and location of electric power rough-in. Indicate relationship of recessed case with surrounding lay-in acoustical ceiling.

1.04 QUALITY ASSURANCE

- A. Manufacturer: Projection screens, accessories and controls shall be manufactured by a company with a minimum of five (5) years documented satisfactory experience in producing the types of products required by this Section. All products of this Section shall be by a single manufacturer.
- B. Installer: Installation of projection screens and related accessories shall be performed by factory trained personnel who are authorized by the manufacturer.
- C. Manufacturer's Certificate: Certify that all products and related accessories meet or exceed the specified requirements.

1.05 DELIVERY, STORAGE AND HANDLING

- A. Do not deliver the items of this Section to the job site until they are ready to be installed.
- B. Deliver products and related accessories in labeled protective crates and containers. Store and handle in strict compliance with manufacturer's printed instructions and recommendations.

1.06 WARRANTY

- A. Provide manufacturer's one-year warranty (from date of project Final Acceptance) for the electric projection screens, including all related accessories.

PART 2 - PRODUCTS

2.01 MANUFACTURERS

- A. Standard of Quality: The work of this Section is based on products of Da-Lite Screen Company, Inc., Warsaw, Indiana. Telephone 1-800-622-3737. (Local distributor is Bowie Audio Visual. Telephone 601-957-6566.)
- B. Other Acceptable Manufacturers offering equivalent (or equal) products:
1. Draper, Inc., Spiceland, Indiana. Telephone 765-987-7999. Fax 866-637-5611.
 2. Stewart Filmscreen Corporation, Torrance, California. Telephone 1-800-762-4999.

2.02 MANUFACTURED UNITS

- A. Typical (see exact location on Reflected Ceiling Plan) automatic electric projection screen shall be equal to Da-Lite "Boardroom Electrol", as follows:
1. Specially designed motor (120 volt/60 Hz, 1.2 amp) mounted inside a 3" diameter metal roller with a patented noise silencer. Motor shall be three wire quick reversal type, oiled for life, with automatic thermal overload cut-out, integral gears, capacitor and an electric brake to prevent coasting.
 2. Controls: 120 volt single station control system with pre-set, adjustable limit switches to automatically stop screen in the "up" or "down" positions. Three-position control switch in box with stainless steel (satin finish) cover plate to match typical electric cover plates.
 3. Screen fabric shall be flame retardant and mildew resistant fiberglass with "Matte White" picture surface, 45" h x 80" w in size, UL Listed. Screen shall have standard black masking borders, shall lower to within 36" of floor and shall have "extra drop" at top as required for 7'-10" ceiling height.
 4. Case shall be of wood construction with metal-lined wiring compartment. The case shall have two bottom aluminum doors; one that opens and closes automatically as the screen is lowered or raised; and one that opens and closes manually to provide access. The case shall be mounted flush, recessed above the lay-in acoustical ceiling, similar to Method "D" and as detailed on the Drawings.

PART 3 - EXECUTION

3.01 EXAMINATION

- A. Examine all affected areas to verify the Project is ready for the work of this Section. Beginning work shall indicate acceptance of existing conditions.

3.02 INSTALLATION

- A. Strictly comply with manufacturer's installation instructions and recommendations. Coordinate installation with adjacent work to ensure proper clearances and allow for maintenance.
- B. Install and align projection screen and case to be level, plumb and square. Use hanging and anchorage devices to securely fasten the assembly to wall construction and overhead framing without distortion or stress.
- C. Securely brace components suspended from building structure. Secure screen case to building structure or structural members only. Bottom of screen case shall be in alignment with lay-in acoustical ceiling wall angle and suspension grid system.
- D. Paint exposed portions of wood case and aluminum doors, as specified in Section 09900.

3.03 ADJUSTING AND CLEANING

- A. Test screens and doors for proper operation and adjust as necessary to provide smooth operation without binding or distortion.
- B. Clean exposed surfaces using non-abrasive cleaners and methods recommended by manufacturer of material or product being cleaned.

3.04 DEMONSTRATION

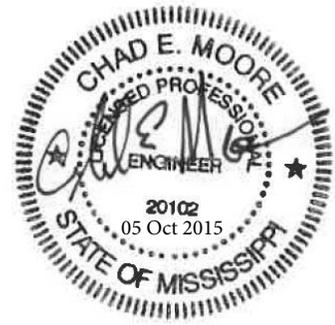
- A. Demonstrate to Owner's personnel and Architect the proper operation of projection screens, including operating controls and other specified features.
- B. Instruct Owner's personnel in proper operating procedures, including maintenance schedule.

3.05 SCHEDULES

- A. Refer to the Drawings for the extent of work required by this Section.

END OF SECTION

SECTION 15000 – MECHANICAL



PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. These mechanical (plumbing, hvac, and fire protection systems) provisions specified herein apply to all sections of division 15.
- B. Provide all equipment shown or scheduled on the drawings or specified herein, including all labor, materials and incidentals necessary and required for complete mechanical systems.
- C. Refer to the general and supplementary conditions and division 01 for special requirements and conditions which apply to all sections of division 15.

1.2 SUMMARY

- A. Work included in this section: materials, equipment, fabrication, installation and tests in conformity with applicable codes and authorities having jurisdiction for the following:
 - 1. Variable air volume terminal units
 - 2. New and modifications to existing air distribution system including; ducts and air distribution devices
 - 3. Energy Management and Control System (EMCS) (Trane Tracer Summit existing EMCS)
 - 4. New and modifications to existing heating water system including; new piping, piping insulation and modifications to existing.
 - 5. New and modifications to existing fire sprinkler system. Modify fire sprinkler system has required to fully comply with NFPA 13.
- B. Miscellaneous work
 - 1. Payment of all fees and permits required.
 - 2. Supports for piping, ductwork, fixtures, and equipment.
 - 3. Cutting as required for work.
 - 4. Insulation for piping and air distribution systems.
 - 5. Pressure testing of piping and air distribution systems.
- C. Related Work Described Elsewhere
 - 1. Patching of cut surfaces by general contractor.
 - 2. Furring and chases by general contractor.
 - 3. Painting by general contractor.
 - 4. Power wiring by electrical contractor.

1.3 CODES AND STANDARDS

- A. Comply with local and state laws, codes and ordinances relative to the work.
 - 1. Electrical equipment and wiring: NFPA 70
 - 2. HVAC systems: NFPA 90A, ASHRAE 90.1-2010, International Mechanical Code – 2012
 - 3. Ductwork: SMACNA, NFPA 90A
 - 4. HVAC equipment: Applicable UL and ARI certification

5. Fire Sprinkler System: NFPA 13 and any other requirements per the Authority Having Jurisdiction (AHJ).

1.4 SUBMITTALS

- A. Submit product data, O&M data, and samples and show item on shop drawings according to the following table.
 1. "R" means required
 2. "R2" means required only for products and equipment differing for the specified manufacturer and model and for "or equals" where specified.

Item	Product Data	O&M Manual	Samples	Shop Drawing
Ductwork materials and fittings	R			R
Flexible ducts	R			R
Duct sealants	R			
Pipe and fittings for each service	R			R
Valves				R
Pipe and ductwork hangers and supports				R
Thermal insulation and accessories				R
VAV terminal units		R		R
Air distribution devices				R
EMCS controllers, devices, sequence of operation	R	R		R
Certified Testing, Adjusting, and Balancing Report		R		

1.5 DRAWINGS

- A. Drawings are diagrammatic in nature and, unless explicitly dimensioned, indicate approximate locations of apparatus, equipment, ductwork and piping. Changes in the location, and offsets, of same which are not shown on the Drawings but are necessary in order to accommodate building conditions and coordination with the work of other trades, shall be made during the preparation of coordination drawings and prior to initial installation, without additional cost to the Using Agency. Contractor shall install all system components in such a manner as to conform to the structure, avoid obstructions, preserve headroom, keep openings and passageways clear and maintain required servicing clearances without further instructions or additional cost to the Using Agency.
- B. Scaled and figured dimensions are approximate and are for estimating purposes only. Indicated dimensions are limiting dimensions where noted. Duct and piping elevations are indicated for initial coordination; final requirements shall be determined by the Contractor after final coordination with other trades.
- C. Before proceeding with work, check and verify all dimensions in field.
- D. Assume all responsibility for fitting of materials and equipment to other parts of equipment and structure.
- E. Make adjustments that may be necessary or requested in order to resolve space problems, preserve headroom and avoid architectural openings, structural members and work of other trades.

- F. It is intended that all mechanical, plumbing and fire protection devices, piping, etc. be located symmetrically with all architectural elements. Refer to Architectural, Structural, Plumbing, Fire Protection, Mechanical and Electrical Specifications and Drawings in completing the required coordination.
- G. The Contractor shall fully inform himself regarding any and all peculiarities and limitations of the spaces available for the installation of all work and materials furnished and installed under this Contract. He shall exercise due and particular caution to determine that all parts of his work are made readily accessible.
- H. The Contractor shall study all drawings and specifications to determine any conflict with all applicable ordinances and statutes. Any discrepancies shall be reported to the Using Agency and any changes shall be shown on the as-built drawings with the additional work performed at no cost to the Using Agency.
- I. The submittal of his bid shall indicate the Contractor has examined the site, drawings and specifications and has included all required allowances in his bid. No allowance shall be made for any error or omission resulting from the Contractor's failure to visit job site and to review drawings and specifications. The Contractor's bid shall include costs for all required drawings and changes as outlined above at no cost to the Using Agency.
- J. Provide access to equipment and apparatus requiring operation, service or maintenance throughout the life of the system.

1.6 PROTECTION OF EQUIPMENT AND MATERIALS

- A. Responsibility for care and protection of equipment and material under this Division rests with the contractor until project Substantial Completion.

1.7 STARTING AND INSTRUCTIONS

- A. Contractor shall supervise the starting, adjusting and testing of all equipment and training of the operator(s) in the systems operation.

1.8 WARRANTY

- A. Contractor shall guarantee all materials, equipment and workmanship to be free from defects for a period of one-year from date of project Substantial Completion.

PART 2 - PRODUCTS

2.1 PIPE HANGERS

- A. Adjustable steel clevis hangers (MSS Type 1). Hangers and rods shall be galvanized.
- B. Copper pipe shall be isolated from steel hangers using (Cush-a-clamps or equal), or copper hangers shall be used. Electrical tape is not acceptable.

2.2 PIPE IDENTIFICATION

- A. Install manufactured pipe markers indicating service on each piping system. Install with flow indication arrows showing direction of flow.
 - 1. Pipes with OD, Including insulation, less than 6-inches; pretentioned pipe markers. Use size to ensure a tight fit.
- B. Locate pipe markers and color bands where piping is exposed
 - 1. Near each control device
 - 2. Near each branch connection. Where flow pattern is not obvious, mark each pipe at branch
 - 3. Near penetrations through walls, ceilings and non-accessible enclosures
 - 4. Near equipment and other points of origination and termination
 - 5. Spaces at maximum intervals of 50 feet along each. Reduce intervals to 25 feet in areas of congested piping and equipment.

2.3 INSULATION

- A. Heating Water:
 - 1. Pipe: ASTM C547, Type I, Molded: one piece, with factory-applied, all purpose, vapor retarder jacket, maximum 0.26 K factor at 75 degrees Fahrenheit mean temperature: Owens-Corning ASJ/SSL-II Pipe Insulation or equal
 - 2. Fittings: Match pipe insulation material. Pre-molded fittings only, with PVC fitting covers.
 - 3. Application
 - a. Secure each layer of pre-molded pipe insulation to pipe with bands without deforming insulation materials.
 - b. Secure laps with aluminum bands at 18 inches on center.
 - c. Apply premolded insulation sections of the same material as straight sections of pipe insulation to all fittings and elbows. Secure according to manufacturer's written instructions.
 - d. Cover fittings with heavy PVC fitting covers. Overlap PVC covers of pipe insulation jackets at least 1 inch at each end. Secure fitting covers with manufacturer's attachments and accessories. Seal seams with tape and vapor-retarder mastic.
 - e. Apply premolded insulation sections of the same material as straight sections of pipe insulation to all valves and specialties. Secure according to manufacturer's written instructions.
 - f. Use preformed heavy PVC fitting covers for valves and specialties. Secure valve and specialty covers with manufacturer's attachments and accessories. Seal seams with tape and vapor-retarder mastic.
- B. Duct Insulation
 - 1. Duct insulation type and thickness
 - a. 2 inch thick duct wrap with vapor barrier. ASTM C553 and C612, flexible, non-combustible fiberglass blanket
 - b. 'K' (Ksi) value: ASTM C518, 0.24 at 75 °F.
 - c. Maximum service temperature: 350 °F
 - d. Maximum moisture absorption: 0.20 % by volume
 - 2. Duct wrap vapor barrier jacket – factory installed (FSK)
 - a. Kraft paper reinforced with glass fiber yarn and bonded to aluminum film
 - b. Moisture vapor transmission: ASTM E96 procedure E, 0.02 perm

c. Secure with pressure sensitive tape

3. Duct insulation installation

- a. Ensure that insulation is continuous through all walls
- b. Finish insulation neatly at hangers, supports, and other protrusions
- c. Locate insulation joints or cover seams in least visible locations
- d. Preparation:

- (1) Do not install covering before ductwork and equipment has been tested, reviewed and approved
- (2) Ensure surface is clean and dry prior to installation
- (3) Ensure insulation is dry before and during application

e. Mechanical fasteners

- (1) Adhered anchors
- (2) Clip off pin penetrations flush with insulation surface or facing
- (3) Seal pins and washers where pins penetrate vapor barriers
 - a) With 4 inch square pieces of vapor barrier material to match facing
 - b) Adhere with vapor seal adhesive
- (4) Spacing on rectangular ducts
 - a) Typical of horizontal and vertical unless otherwise specified

f. Rectangular duct wrap with vapor barrier

- (1) Vapor barrier and sealing continuous without breaks. Vapor proof seal around supports and bracing
- (2) 2 inches lap strip at one end
- (3) Peel insulation for 2 inch lap strip along longitudinal joints
- (4) Seal lap strips with vapor seal adhesive, Foster's 85-60 or equal.

2.4 VALVES

- A. Valves for heating water service shall be two-piece, copper alloy valves with full-port, chrome-plated bronze ball, PTFE seats, 600 psig minimum CWP rating. Nibco, Conbraco, Grinnel or equal.
- B. Valves to have lever handles with extended stems to clear insulation
- C. Control valves for heating coils: 2-way valve connected to DDC controller

2.5 PIPING

A. Heating water piping

- 1. ANJI H23.1, hard drawn Type L copper, solder-joint fittings and soldered joints
- 2. Solder, ASTM B32, lead-free 95-5 solder

B. Testing

- 1. Heating water piping: Hydrostatic test at 150 psig for 24 hours with no loss in pressure

permitted. Tests shall be conducted before any equipment has been connected and before any insulation is installed.

2.6 VAV TERMINAL UNITS

- A. Manufactured by Trane, Price, Titus or Johnson Controls
 - 1. Ship as a complete assembly requiring no field assembly (including accessories)
 - 2. Acoustic lining: Fiberglass with scrim-backed foil liner (1/2 inch thick)
 - 3. Controls:
 - a. Multi-point, cross-flow or flow-ring, center averaging sensor
 - b. Controls enclosure (fully enclose VAV box controller)
 - c. DDC controller, Trane Tracer Summit (integrate into existing EMCS)

2.7 MISCELLANEOUS PIPING INSTALLATION

- A. Examine roughing-in for heating water supply piping systems. Verify that locations and sizes of piping and locations and types of supports match those indicated, before installing and connecting equipment. Use manufacturer's roughing-in data.
- B. Do not proceed until unsatisfactory conditions have been corrected.

2.8 AIR DISTRIBUTION DEVICES

- A. See schedule of drawings

2.9 CONTROL WIRING

- A. Control wiring shall be No. 18 AWG copper conductors with THW plastic covering
- B. Line voltage wiring shall be suitable for 600 volts, 168 °F temperature with type THW covering, minimum 18 AWG.
- C. All control and line voltage wiring shall be installed in EMT conduit. Materials and methods shall be in accordance with Division 16 requirements.

2.10 DUCTWORK

- A. Materials
 - 1. Galvanized, sheet steel, lock forming quality, ASTM A 653/A 653M, G90 galvanized coating designation, mill-phosphatized finish for duct surfaces exposed to public view.
 - 2. All round duct shall be spiral duct. Snap-lock duct is not acceptable.
- B. Duct Liner
 - 1. General: Comply with NFPA 90A and NAIMA'S "Fibrous Glass Duct Liner Standard".
 - 2. Materials: ASTM C 1071 with Surface exposed to airstream coated with acrylic or composite coating treated with EPA registered anti-microbial agent to resist microbial growth as determined by ASTM G21 and G22 to prevent erosion of glass fibers. Liner shall be "Tough

Guard” manufactured by Certainteed, Knauf, or equal

- a. Thickness: 1 inch
- b. Thermal conductivity (K-value): 0.26 at 75 °F mean temperature
- c. Fire-hazard classification: Maximum flame-spread rating of 25 and smoke-developed rating of 50, when tested according to ASTM C 411.
- d. Liner adhesive: Comply with NFPA 90A and ASTM C 916
- e. Mechanical Fasteners: Galvanized steel, suitable for adhesive attachment, mechanical attachment, or welding attachment to duct without damaging liner when applied as recommended by manufacturer and with causing leakage in duct.

C. Rectangular duct fabrication

1. General: Fabricate ducts, elbows, transitions, offsets, branch connections, and other construction with galvanized, sheet steel, according to SMACNA “HVAC Duct Construction Standards – Metal and Flexible”. Comply with requirements for metal thickness, reinforcing types and intervals, tie-rod applications, and joint types and intervals.

D. Duct Sealant

1. Joint and seam sealant: One-part, non-sag, solvent-release-curing, polymerized butyl sealant, formulated with a minimum of 75 percent solids.

2.11 DUCT ACCESSORIES

A. Volume Dampers

1. General description: factory fabricated, with required hardware and accessories. Stiffen damper blades for stability. Include locking device to hold single-blade dampers in a fixed position without vibration. Close duct penetrations for damper components to seal duct consistent with pressure class.
2. Standard volume dampers: single-blade, for ducts up to 10X6, multiple opposed-blade type for larger sizes, standard leakage rating, and suitable for horizontal or vertical applications.
 - a. Greenheck MBD-15 or equal
3. Damper hardware: zinc-plated, die-cast core with dial and handle made of 3/32-inch thick zinc-plated steel, and 3/4-inch hexagon locking nut. Include center hole to suit damper operating-rod size. Include elevated platform for insulated duct mounting.

B. Turning Vanes

1. Fabricate to comply with SMACNA’s “HVAC Duct Construction Standards – Metal and Flexible.”

C. Duct Mounted Access Doors

1. Fabricate doors airtight and suitable for duct pressure class
2. Door: single wall, duct mounting and rectangular. Fabricated of galvanized sheet metal with thickness as indicated for duct pressure class. Include 1 x 1 inch butt or piano hinge and cam latches.
3. Seal around frame attachment to duct and door to frame with neoprene or foam rubber.

D. Flexible Connectors

1. Flame-retardant or non-combustible fabrics, coatings and adhesives complying with UL 181, Class 1.
2. Metal-edged connectors: Factory fabricated with a fabric strip 5-3/4 inches wide attached to two strips of 2-3/4 inch wide, 0.028 inch thick. Galvanized sheet steel or 0.032 inch thick aluminum sheets. Select metal compatible with ducts.
3. Indoor system, flexible connector fabric: Glass fabric double coated with neoprene.
 - a. Minimum weight: 26 oz/sq yard
 - b. Tensile strength: 480 lbf/inch in the wrap and 360 lbf/inch in the filling
 - c. Service temperature: -40 to +200 °F.

E. Flexible Ducts

1. Manufacturers: Flexmaster, Ductmate, or equal
2. Insulated- duct connectors: UL 181, Class 1, aluminum laminate and polyester film with latex adhesive supported by helically wound, spring-steel wire, fibrous-glass insulation, aluminized vapor barrier film.
 - a. Pressure rating: 10 inch wg positive and 1.0 inch wg negative
 - b. Max air velocity: 4000 fpm
 - c. Temp rating: -20 to +210 °F
 - d. Max length of duct runouts shall be 5 feet in length.

F. Fire Dampers

1. Manufacturers: Rusking, Greenheck or equal
 - a. Rectangular type up to 1000 fpm. Ruskin DIBD2 or DIBD10 Style A
 - b. Rectangular type 1000 fpm and higher: Ruskin DIBD2 or DIBD10 Style B
 - c. Circular and Oval type: Ruskin DIBDS Style CR and CO, or CIDB10 Style R and LO
2. Install per manufacturer's recommendations

G. Application and Installation

1. Install duct accessories according to applicable details in SMACNA's "HVAC Duct Construction Standards – Metal and Flexible" for metal ducts.
2. Provide test holes at fan inlets and outlets and elsewhere as required
3. Install duct access doors to allow for inspecting, adjusting and maintaining accessories and terminal units as follows:
4. Install flexible connectors immediately adjacent to equipment in ducts associated with fans and motorized equipment supported by vibration isolators.

2.12 TESTING, ADJUSTING AND BALANCING

A. General

1. Balance air and water flow associated with this work only.
2. Clean piping, equipment specialties, before testing. Do not cover or paint any part of piping or connect fixtures or equipment before testing and obtaining approval.
3. Notice of tests: give written notice in ample time to all concerned of date when tests will be conducted
4. Tests: conduct tests as specified for each system or equipment unit in the presence of an accredited representative of the architect, as well as well as representatives of agencies having jurisdiction

5. Costs: furnish labor, material and instruments and bear other costs in connection with all tests. The contractor shall furnish all equipment, materials, electricity, fuel and water required for testing. Installed instruments may be used for tests if calibrated and approved for the purpose

B. Performance Tests of HVAC System

1. Each and every phase of the heating, ventilating and air conditioning systems shall be operated for a sufficient period of time to demonstrate to the entire satisfaction of the owner, the ability of the systems to maintain design conditions
2. The contractor shall procure the services of an independant agency, approved by the architect, which specializes in the testing and balancing for air distribution systems. The agency shall be fully certified by the national environmental balancing bureau or the associated air balance council. The architect will not make final inspection until four copies of the balancing and testing records specified below have been submitted for evaluation and approval. The balancing agency shall perform the following tests and compile the following information
 - a. Design Conditions
 - (1) CFM
 - (2) Static pressure
 - (3) Minimum % of outdoor air
 - (4) Fan RPM
 - (5) Fan motor brake horsepower
 - b. Installed Equipment
 - (1) Manufacturer
 - (2) Size
 - (3) Arrangements, discharge class
 - (4) Motor horsepower
 - (5) Volts, phase
 - (6) Full load amps
 - (7) Starter heater amp ratings
 - c. Field Tests
 - (1) Fan speed
 - (2) Fan motor operating amps
 - (3) Phase 1, 2, 3
 - (4) Fan motor operation brake horsepower
 - (5) Field volts
 - (6) Static pressure at outlet
 - (7) Total pressure at inlet
 - (8) Entering air temp
 - (9) Leaving air temp
 - d. Velocity Test for Total Air
 - (1) Discharge or suction duct size
 - (2) Number of velocity readings
 - (3) Duct average velocity
 - (4) Total cfm

- e. Individual Outlets (Grilles, Registers and Diffusers) including supply, return and exhaust
 - (1) Each outlet shall be identified as to location and area
 - (2) Outlet manufacturer and type
 - (3) Outlet size
 - (4) Outlet free area, core area or neck area
 - (5) Outlet factor
 - (6) Required cfm and test results, each outlet
 - (7) All outlets shall be set for air pattern
 - (8) All main supply air, return air and exhaust air shall be adjusted and set for design cfm.

- 3. Balance all supply air, return air, outside air and exhaust air distribution devices to within 10% of specified cfm

END OF SECTION 15100

DIVISION 16 INDEX

SECTION 16010 - BASIC ELECTRICAL REQUIREMENTS
SECTION 16020 - CODES AND STANDARDS SECTION
SECTION 16100 - BASIC MATERIALS AND METHODS
SECTION 16110 - RACEWAYS
SECTION 16120 - WIRES AND CABLES
SECTION 16135 - BOXES AND FITTINGS
SECTION 16143 - WIRING DEVICES
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SECTION 16515 - INTERIOR LIGHTING FIXTURES
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10-5-15

SECTION 16010 - BASIC ELECTRICAL REQUIREMENTS

16010.01 RELATED DOCUMENTS

- A. Drawings and general provisions of Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this and other sections of Division 16.

16010.02 DESCRIPTION OF THE WORK

- A. The work of this Section includes, but not limited to, the following (including all labor, materials, tools, equipment, etc for a complete installation):
1. Empty conduit and flush outlet boxes, termination board, pull-boxes, etc for the telephone system and the Data System as indicated on the plans.
 2. The rough-In and final electrical connections to equipment furnished in other Sections of the Project Manual and as indicated on the plans.
 3. Lighting Fixtures and Lamps as indicated on the Lighting Fixture Schedule.
 4. All requested Shop Drawings, Wiring Diagrams, Equipment Data Submittals in accordance with the requirements of the Project Manual and as the Local Code Reviewer may require.
 5. Provide all testing, cleaning, and adjustments of the electrical installation and related electrical components.
 6. Support devices and backing as required for a complete and working electrical installation.
 7. Rough-In and Final Connections of the Power Distribution panelboards, including circuit breakers.

END SECTION 16010

SECTION 16020 - CODES AND STANDARDS

16020.01 CODES

- A. Strictly comply with the latest edition of the National Electrical Code (NEC), National Fire Protection Association (NFPA), International Building Code (IBC), National Electrical Safety Code (ANSI-C2) and all Federal, State and/or local codes. Notify Architect of any conflict between these codes and the drawings and/or specifications before bid date or correct conflicts at his own expense.

16020.02 STANDARDS

- A. Familiarize himself, coordinate, and cooperate with all other trades in installation of his materials. Layout of Division 16 work shall be the responsibility of this Contractor and all conflicts with Division 16 work and other trades shall be resolved prior to installation.
- B. Use only new equipment/materials of current manufacturer which are listed by Underwriters' Laboratories when such listings are issued for the type of equipment/materials, approved by NEMA standards, National Electrical Code standards or other appropriate agency. Equipment/material shall be of current production from manufacturer's of long experience in the manufacturer of such type equipment/material and who are regularly engaged in the production of this type equipment/material.
- C. Equipment/materials shall have local service representation where applicable.
- D. Notify Architect prior to installation of conflicts between electrical and structural, architectural, mechanical, etc. work.
- E. Equipment/materials installed and connected in strict compliance with manufacturer's recommendations unless these requirements are exceeded as noted on the drawings or specified herein.
- F. Equipment/materials shall be installed and connected in a neat and workmanlike manner.
- G. Use experienced labor or employ appropriate Sub-Contractor to do all cutting and patching necessary for installation of his materials. Obtain permission from Architect and General Contractor before cutting any structural member.
- H. Not to scale electrical drawings. Follow architectural, equipment supplier shop drawings, and manufacturers shop and installation drawings for accuracy.

END OF SECTION 16020

SECTION 16100 - BASIC MATERIALS AND METHODS

16100.01 GENERAL

- A. Equipment is specified by manufacturer's name and catalog number and is intended to establish the minimum standards of quality acceptable.
- B. Substitute equipment, equivalent in all respects to that specified, is permitted with the written approval of the Architect. Approval will not be considered until after award of contract and only if submitted by the Contractor.
- C. The manufacturer's name first mentioned in this specification is considered to be the specified equipment. The "or equal" manufacturers mentioned or other manufacturers proposed by the Contractor shall be considered as substituted equipment.
- D. Substituted equipment shall meet the dimensional and functional requirements of the building as represented by the plans and specifications. All revisions to the contract precipitated by the use of substituted equipment shall be incorporated by the Contractor, after approval in writing by the Architect, at no additional cost to the Owner.
- E. Mounting Heights
 - 1. Mounting heights of various devices, outlets, safety switches, panelboards and the like shall reference the height above the finished floor or grade above which they are mounted. Heights specified shall reference the center of the device, box, breaker or switch operating handle.
 - 2. Mounting heights may be adjusted slightly to permit cutting of masonry block to the top or bottom of the block course nearest the required height. All heights shall be consistently cut above or below block coursing so that they will be the same height above the reference.
 - 3. Mounting heights shall be as follows:

<u>Description</u>	<u>Mounting Height</u>
Switch Toggle	48" to center
Receptacle	16" to center
Receptacle or Switch	4" to center above counter / backsplash above counter top

END SECTION 16100

SECTION 16110 - RACEWAYS

16110.01 METAL CONDUIT AND TUBING

Rigid Galvanized Steel Conduit: ANSI C80.1, UL Standard 6.

Intermediate Steel Conduit (IMC): ANSI C80-6, UL 1242.

Electrical Metallic Tubing (EMT) and Fittings: ANSI C80.3, UL Standard 797.

Flexible Metal Conduit: UL 1, zinc-coated steel.

Liquid-tight Flexible Metal Conduit and Fittings: UL 360.

16110.02 CONDUIT BODIES

- A. General: Types, shapes, and sizes as required to suit individual applications and NEC requirements. Provide matching gasketed covers secured with corrosion-resistant screws.
- B. Metallic Conduit and Tubing: Use metallic conduit bodies. Use bodies with threaded hubs for threaded raceways.
- C. Conduit bodies 1 inch and Smaller: Use bodies with compression-type or screw type EMT connectors.

16110.03 WIRING METHODS

- A. Indoors: Use the following wiring methods (There shall be no exposed interior conduits, unless specifically approved by the Owner's Representative.)
 - 1. Connection to Vibrating Equipment: Including transformers and hydraulic, pneumatic or electric solenoid or motor-operated equipment: Flexible Metal Conduit.
 - 2. Concealed: Electrical Metallic Tubing (EMT).

16110.04 INSTALLATION

- A. General: Install the electrical raceways in accordance with the manufacturer's written installation instructions, applicable requirements of NEC, and as follows.
- B. Conceal Conduit and EMT, unless indicated otherwise, within finished walls, ceilings, and floors. Keep raceways at least 6 inches away from parallel runs of flues and hot water pipes. Install raceways level and square and at proper elevations.
- C. Elevation of Raceway: Where possible, install horizontal raceway runs above water piping.
- D. Complete the installation of electrical raceways before starting installation of conductors within raceways.
- E. Prevent foreign matter from entering raceways by using temporary closure protection.
- F. Make bends and offsets so the inside diameter is not effectively reduced.
- G. Install exposed raceways parallel and perpendicular to nearby surfaces or structural members and follow the surface contours as much as practical.
- H. Flexible Connections: Use short length (maximum of 6 ft.) of flexible conduit for recessed and semi-recessed lighting fixtures, for equipment subject to vibration, noise transmission, or movement; and for all motors. Use liquid-tight flexible conduit in wet locations. Install separate ground conductor across flexible connections.

END SECTION 16110

SECTION 16120 - WIRES AND CABLES

16120.01 GENERAL

- A. Conductors: Provide solid conductors for power and lighting circuits no. 10 AWG and smaller. Provide stranded conductors for sizes no. 8 AWG and larger.
- B. Conductor Material: copper for all wires and cables.
- C. Insulation: Provide THHN/THWN insulation for all conductors size 500MCM and larger, and no. 8 AWG and smaller. For all other sizes provide THW, THHN/THWN or XHHW insulation as appropriate for the locations where installed.

16120.02 CONNECTORS FOR CONDUCTORS

- A. Provide UL-listed factory-fabricated, solderless metal connectors of sizes, ampacity ratings, materials, types and classes for applications and for services indicated. Use connectors with temperature ratings equal to or greater than those of the wires upon which used.

16120.03 INSTALLATION OF WIRES AND CABLES

- A. General: Install electrical cables, wires, and connectors in compliance with NEC and install all wire in raceway.
- B. Use splice and tap connectors that are compatible with conductor material. All splices shall be in accessible junctions boxes.
- C. Provide adequate length of conductors within electrical enclosures and train the conductors to terminal points with no excess. Bundle multiple conductors, with conductors larger than no. 10 AWG cabled in individual circuits. Make terminations so there is no bare conductor at the terminal.
- D. Tighten electrical connectors and terminals, including screws and bolts, in accordance with manufacturer's published torque tightening values. Where manufacturer's torquing requirements are not indicated, tighten connectors and terminals to comply with tightening torques specified in UL 486A and UL 486B.

END SECTION 16120

SECTION 16135 - BOXES AND FITTINGS

16135.01 GENERAL

- A. General: Of indicated types, sizes, and NEMA enclosure classes. Where not indicated, provide units of types, sizes, and classes appropriate for the use and location. Provide all items complete with covers and accessories required for the intended use. Provide gaskets for units in damp or wet locations.
- B. Sheet Steel: Flat-rolled, code-gage, galvanized steel.
- C. Fasteners for General Use: Corrosion resistant screws and hardware including cadmium and zinc plated items.
- D. Fasteners for Damp or Wet Locations: Stainless steel screws and hardware.

16135.02 METAL OUTLET, DEVICE, AND SMALL WIRING BOXES

- A. Steel boxes: Conform to NEMA OS 1, "Sheet Steel Outlet Boxes, Device boxes, Covers, and Box Supports." Boxes shall be sheet steel with stamped knockouts, threaded screw holes and accessories suitable for each location including mounting brackets and straps, cable clamps, exterior rings and fixture studs.

16135.03 PULL AND JUNCTION BOXES

- A. General: Comply with UL 50, "Electrical Cabinets and Boxes", for boxes over 100 cubic inches volume. Boxes shall have screwed or bolted on covers of material same as box and shall be of size and shape to suit application.
- B. Sheet steel boxes with welded seams. Where necessary to provide a rigid assembly, construct with internal structural steel bracing.

16135.04 GENERAL INSTALLATION REQUIREMENTS

- A. Locations: Install items where indicated and where required to suit code requirements and installation conditions.
- B. Remove sharp edges where they may come in contact with wiring or personnel.

END SECTION 16135

SECTION 16143 - WIRING DEVICES

16143.01 GENERAL

- A. Provide wiring devices, in types, characteristics, grades, colors, and electrical ratings for applications indicated which are UL listed and which comply with NEMA WD 1 and other applicable UL and NEMA standards.
- B. Provide ivory color devices and wall plates except as otherwise indicated. Verify color selections with Owner's Representative.
- C. Receptacles: Specification Grade and comply with UL 498 and NEMA WD 1.
- D. Ground-Fault Interrupter (GF) Receptacles: Provide "feed-thru" type ground-fault circuit interrupter, with integral heavy-duty NEMA 5-20R duplex receptacles arranged to protect connected downstream receptacles on same circuit (when required). Provide unit designed for installation in a 2-3/4 inch deep outlet box without adapter, grounding type, Class A, Group 1, per UL Standard 94.3.
- E. Snap Switches: Specification Grade and comply with UL 20 and NEMA WD1.

16143.02 WIRING DEVICE ACCESSORIES

- A. Wall plates: Single and combination style, of types, sizes, and with ganging and cutouts as indicated. Provide plates which mate and match with wiring devices to which attached. Provide metal screws for securing plates to devices with screw heads colored to match finish of plates. Provide wall plate as follows:
 - Unfinished Areas (Mechanical, Electrical): steel plate, galvanized.
 - Others Areas: 302 Stainless Steel.

16143.03 INSTALLATION OF WIRING DEVICES AND ACCESSORIES

- A. Install wiring devices and accessories as indicated, in accordance with manufacturer's written instructions, applicable requirements of NEC and in accordance with recognized industry practices to fulfill project requirements.
- B. Coordinate with other work, including painting, electrical boxes and wiring installations, as necessary to interface installation of wiring devices with other Work.
- C. Install wiring devices only in electrical boxes that are clean, free from excess building materials, dirt, and debris.
- D. Install wiring devices after wiring work is completed and wall plates after painting work is completed.
- E. Tighten connectors and terminals, including screws and bolts, in accordance with equipment manufacturer's published torque tightening values for wiring devices. Where manufacturer's torquing requirements are not indicated, tighten connectors and terminals to comply with tightening torques specified in UL Standard 486A. Use properly scaled torque indicating hand tool.
- F. Jumbo wall plates shall not be used.

16143.04 PROTECTION

- A. Protect installed components from damage. Replace damaged items prior to final acceptance.

END SECTION 16143

SECTION 16452 - GROUNDING

16452.01 GROUNDING AND BONDING PRODUCTS

- A. Products: Of types indicated and of sizes and ratings to comply with NEC. Where types, sizes, ratings, and quantities indicated are in excess of NEC requirements, the more stringent requirements and the greater size, rating, and quantity indications govern.
- B. Conductor Material: Copper.

16452.02 WIRE AND CABLE CONDUCTORS

- A. General: Conform to NEC Table 8, except as otherwise indicated, for conductor properties, including stranding.
 - 1. Equipment Grounding Conductor: Green insulated.

16452.03 APPLICATION

- A. Equipment Grounding Conductor Application: Comply with NEC Article 250 for sizes and quantities of equipment grounding conductors, except where larger sizes or more conductors are indicated. Provide separate green grounding conductor for all branch circuits and feeders including Feeder and branch circuits, Lighting circuits, Receptacle circuits, Single-phase motor or appliance circuits, and Three-phase motor or appliance branch circuits.

16452.05 INSTALLATION

- A. General: Ground electrical systems and equipment in accordance with NEC requirements except where the Drawings or Specifications exceed NEC requirements.

16452.06 CONNECTIONS

- A. General: Make connections in such a manner as to minimize possibility of galvanic action or electrolysis. Select connectors, connection hardware, conductors, and connection methods so metals in direct contact will be galvanically compatible.
- B. Use electroplated or hot-tin-coated materials to assure high conductivity and make contact points closer in order of galvanic series.
- C. Make connections with clean bare metal at points of contact.
- D. Coat and seal connections involving dissimilar metals with inert material such as red lead paint to prevent future penetration of moisture to contact surfaces.
- E. Terminate insulated equipment-grounding conductors for feeders and branch circuits with pressure-type grounding lugs. Where metallic raceways terminate at metallic housings without mechanical and electrical connection to the housing, terminate each conduit with a grounding bushing. Connect grounding bushings with a bare grounding conductor to the ground bus in the housing.
- F. Bond electrically non-continuous conduits at both entrances and exits with grounding bushings and bare grounding conductors.

END SECTION 16452

SECTION 16470 - PANELBOARDS AND CIRCUIT BREAKERS

16470.01 GENERAL

- A. Provide with dead front construction, pressure terminals and lockable door.
- B. Manufacturers shall be General Electric type AQ or equal in Square D Company, Siemens or Cutler Hammer.

16470.02 INSTALLATION

- A. Install panelboards and accessory items in accordance with NEMA PB 1.1, "General Instructions for Proper Installation, Operation and Maintenance of Panelboards Rated 600 Volts or Less" and manufacturers' written installation instructions.
- B. Circuit breakers shall have bolted connections and shall have minimum interrupting rating and voltage rating as shown on drawings. All single pole 15 and 20 ampere circuit breakers shall be UL listed SWD for switching duty. All circuit breakers serving HVAC equipment shall be UL rated HACR. All 15 and 20 amp circuit breakers serving high magnetic (HM) or high intensity discharge (HID) loads shall be HM or HID rated.
- C. Where existing panelboards are shown and/or noted to be used for new branch circuits, existing adequate spare circuit breakers and/or spaces may be used for the new circuits. Circuit breaker(s) installed in existing panelboards shall be of the same manufacturer and K.A.I.C. rating as existing breakers. Where space is inadequate for new circuit breaker(s), provide new panel section with sufficient pole capacity and same ratings as existing panel and serve by tapping the bus of the existing panel. Provide all required hardware and accessories necessary for installation of the new circuit breaker(s) and/or panel sections. Contractor shall be responsible for visiting the site and verifying the existing conditions prior to bidding.

16470.03 GROUNDING

- A. Connections: Make equipment-grounding connections at panelboards as indicated.

16470.04 CONNECTIONS

- A. Tighten electrical connectors and terminals, including grounding connections, in accordance with manufacturer's published torque-tightening values. Where manufacturer's torque values are not indicated, use those specified in UL 486A and UL 486B.

END SECTION 16470

SECTION 16515 - INTERIOR LIGHTING FIXTURES

16515.01 GENERAL

- A. Install the lighting fixtures complete with, but not limited to, energy-efficient lamps, lamp holders, reflectors, energy efficient ballasts, starters and wiring. The fixtures are shipped factory assembled, with parts and accessories required for a complete installation.
- B. Wiring: Electrical wiring within fixture suitable for connecting to branch circuit wiring to be NEC Type AF for 120 volt, minimum No. 18 AWG.

16515.02 INSTALLATION OF INTERIOR LIGHTING FIXTURES

- A. Install interior lighting fixtures at locations and heights as indicated, in accordance with fixture manufacturer's written instructions, applicable requirements of NEC, NECA's "Standard of Installation", NEMA standards, and with recognized industry practices to ensure that lighting fixtures fulfil requirements.
- B. Install flush mounted fixtures to eliminate light leakage between fixture frame and finished surface.
- C. Support surface mounted fixtures greater than 2 feet in length at a point in addition to the outlet box fixture stud.
- D. Fixture mounting shall be rigid steel independent of the ceiling tiles and shall be supported from the major structural elements of the ceiling system.
- E. Provide all lighting fixtures as shown on the drawings by symbols and as defined in the lighting fixture schedule(s). Fixtures shall be provided with all necessary mounting accessories. The installation of all fixtures shall be complete, safe and in full accordance with manufacturer's recommendations and these specifications. This contractor shall provide additional 1-1/2" x 1-1/2" x 12 ga. channel bridging where necessary to mount lighting fixtures governed by the conditions encountered.
- F. Procure fixtures completely factory wired for proper operation in the application shown on the drawings. All fixtures shall be furnished with proper fittings and accessories for installation in the area encountered. This Contractor shall review the Architectural plans and specifications and provide fixtures compatible with the ceiling specified in each area.
- G. Substituted fixtures shall meet the performance and functional characteristics and the general appearance and dimensions (+/- 10%) of the specified fixtures. Approval of submitted substitute fixture(s) shall not eliminate the Contractor's responsibility to provide fixtures similar in characteristics to the specified fixture(s).
- H. Recessed fixtures in accordance with Article 410 of the NEC. All recessed fixtures in accessible ceilings shall be connected with 1/2" flexible conduit from accessible junction box with sufficient length to allow fixture to be relocated to any adjacent ceiling panel without disconnecting. 3/8" flexible conduit may be used if furnished with the fixture by the manufacturer. All recessed fixtures in non-accessible ceilings, unless otherwise indicated, shall be pre-wired from the factory with junction box for terminating branch circuit conduit.

16515.03 ADJUSTING AND CLEANING

- A. Clean interior lighting fixtures of dirt and construction debris upon completion of installation. Clean fingerprints and smudges from lenses.
- B. Protect installed fixtures from damage during remainder of construction period.

END SECTION 16515

SECTION 16610 - FIRE ALARM AND DETECTION SYSTEM

16610.01 GENERAL

- A. Shall be installed in conduit. Conduit and wiring though not shown on drawings shall be provided by the contractor to accomplish the intent of the system as shown on the drawings by symbols and this specification.
- B. The Fire Alarm and Detection System(s) and its/their installation shall comply with the latest revisions all applicable codes and standards including Standard Building Code (SBC), National Fire Protection Agency (NFPA), National Electrical Code (NEC), Americans with Disabilities Act (ADA).
- C. Provide all equipment, accessories, material, and labor required to install and connect in accordance with these specifications and applicable drawings for fully operational Fire Alarm and Detection System to the complete satisfaction of the Architect. All material and/or equipment necessary for the proper operation of the system not specified or described herein shall be deemed part of the specifications and shall be provided by the Division 16 contractor.
- D. See Section 16600 "SPECIAL SYSTEMS" for additional requirements.
- E. The installed and/or modified Fire Alarm and Detection System(s) and all associated devices and connections shall be tested in accord with the manufacturer's recommendations, applicable codes and standards, and testing guidelines as herein specified. Testing shall be performed by an independent, third-party company qualified to test the system involved. Testing company qualifications shall be submitted to the Architect for approval prior to the beginning of testing.

16610.02 INSTRUCTIONS

- A. Fire Alarm System shall consist of an expandable four zone general alarm, supervised system complete with pull stations, automatic detector and audio/visual devices for complete coverage of the areas noted on the drawings.
- B. Actuation of any initiation device shall cause the following actions:
 - 1. Activate general alarms (audible and visual).
 - 2. Visual alarm shall continue until system is reset. Audible only shall be controlled by silence switch.
 - 3. Activate associated zone indicators (audible and visual).
 - 4. Turn off power to all air supply units via the duct detector associated therewith.
 - 5. Transmit signal over telephone lines to central fire reporting station via dialer and/or communicator as required.
 - 6. Provide all necessary hardware required to accomplish this function and coordinate installation including, if required, proper polarity reversing relays.

- C. System shall be installed by qualified technician of the equipment. This technician shall test the entire system for proper operation.

System wiring shall be Class B as defined by NFPA. Any system circuit wiring ground or open, or any system component failure shall cause all trouble signals to operate. System components shall be protected against transient over voltages by General Electric Series L metal oxide varistor or equal.

- D. Smoke detectors of proper size and type shall be furnished and properly installed in each of the air handling duct systems as noted in the following locations:
1. In the return duct prior to exhausting from building diluted by outside air of all units 15000 CFM and above.
 2. In the main supply duct on the downstream side of filters.
 3. The detectors shall be furnished with necessary NC & NO contacts as needed for Division 15 Contractor to use for air handling unit shut down.
 4. Wiring and connection requirements for air handling unit shut down to be the responsibility of the Division 15 Contractor.
 5. Each detector shall have a remote alarm and test station installed where directed by the Architect or as shown on the drawings.
- E. Activation of any device shall not interfere with the normal operation, subsequent activation, and/or alarm operation of any other connected component due to System design, wiring, or power limitations.
- F. Alarm Devices. Audible/visual and visual alarm devices shall be provided and connected throughout the facility(ies) properly located as to produce audible and visual alarms in accordance with NFPA 72 and ADA. Audible/visual devices provided in corridors shall be located within 15 feet of each corridor end and at a spacing no greater than 50' in between. Visual alarm devices shall be provided and connected as shown on the drawings and in each restroom, classroom, meeting/conference room, filing/work room, dressing/locker room, examination room and similar rooms/spaces. Visual alarm devices provided in rooms (with the exception of corridors/hallways) whose effective rectangular (length X width) dimensions (measured from the longest points) exceed 20'LX20'W shall have a light output of 110 candela. Visual alarm devices in corridors and other spaces shall have a light output of 15 candela unless noted otherwise on the drawings.
- G. Manual Pull Station. Shall be provided and connected at all exterior doors and in each corridor where required to limit spacing between devices to 200 feet. Shall be non-coded, addressable double action - push type with housings and levers of high-impact Lexan or cast metal.
- H. Main terminal cabinet shall be equipped with a drill switch which, when activated, shall cause only the general alarm audible and visual signals to activate but no other general alarm functions shall be affected.

- I. Main terminal cabinet shall have battery standby complete with metered charger. Batteries shall be maintenance free sealed type capable of operating system for 24 hours. Charger shall be rated for recovery of batteries from full discharge to full charge in 24 hours or less.
- J. System components shall be the following as manufactured by Simplex or equal approved by Architect.

<u>ITEM</u>	<u>CAT. NO.</u>	<u>BOX</u>
Main Terminal Cabinet	4005 Series	with device
Duct Detector with Proper Sampling Tubes	2098-9649-9201	with device
Smoke Detector	2098-9202	4" square
Manual Station, Double Action	2099	4" sq. with 1gg raised cover
Audible & Visual signal	4903-9215	4" square
Visual Signal	4904-9163	4" square
Remote Annunciator	4602-9102	

END SECTION 16610