

FIRE STATION

GRIFFITHVILLE, WHITE COUNTY, ARKANSAS

PROJECT NO : AEDC #790-08861-14

PROJECT MANUAL



WILLIAMS & DEAN

ARCHITECTURE | INTERIOR DESIGN

18 CORPORATE HILL DRIVE, SUITE 210
LITTLE ROCK, ARKANSAS 72205
501.224.1900

SURVEYOR

WHITLOW ENGINEERING SERVICES, INC.
301 EAST LINCOLN AVENUE #2
SEARCY, ARKANSAS 72143
501.279.9200

STRUCTURAL

ENGINEERING CONSULTANTS, INC.
401 WEST CAPITAL STREET, SUITE 305
LITTLE ROCK, AR 72201
501.376.3752

MPE

LUCUS, MARRIOT & ASSOCIATES
2225 WEST 7TH STREET
LITTLE ROCK, AR 72201
501.374.3522



08.01.16
CERTIFICATION STATEMENT

I HEREBY CERTIFY THAT THESE PLANS HAVE BEEN PREPARED BY ME OR UNDER MY DIRECT SUPERVISION. I FURTHER CERTIFY THAT TO THE BEST OF MY KNOWLEDGE, THESE PLANS ARE AS REQUIRED BY LAW AND IN COMPLIANCE WITH THE ARKANSAS FIRE PREVENTION CODE FOR THE STATE OF ARKANSAS.

John Johnson *08.01.16*

John Johnson AIA Date
Williams & Dean Associated Architects

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14-117 :PROJECT NUMBER

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Griffithville, White County, Arkansas
Project No: AEDC #790-08861-14
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END OF DOCUMENT

DIVISION 0

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SECTION 00001 INVITATION TO BID

Sealed bids for construction of a one story 4200 square foot pre-engineered metal building with metal wall panels and concrete slab on grade. The structure is to be located on 112 Main Street, Griffithville (White County) Arkansas. Bids will be received until 2:00 p.m., local time on Thursday, January 19th, 2017 at the Senior Citizens Center located at 208 Main Street, Griffithville, Arkansas and then will be publicly opened and read aloud.

The work includes site preparation and improvements, general construction, mechanical work and electrical work, all to be let under one prime contract. Note: Date of completion on the Bid Form and that amount of Bid cannot be withdrawn for at least 60 days.

Bid security in the form of a Bid Bond (see attached RD Instruction 1942-A) or certified check, in the amount equal to 5% of the contract sum, and payable to the Owner will be required of bidders.

Performance Bond and Payment Bond (see attached RD Instruction 1942-A), equal to the amount of the contract, will be required of the bidder awarded the contract.

Copies of drawings, specifications and other proposed contract documents are on file and are open to inspection at the following places.

Williams & Dean Architecture | Interior Design, 18 Corporate Hill Drive, Suite 210, Little Rock, Arkansas 72205

Southern Reprographics, 901 West 7th Street, Little Rock, Arkansas

Prime Contractors may obtain up to three (3) sets of Contract Documents upon deposit of a check in the amount of \$75.00, made payable to Williams & Dean Architecture | Interior Design. The deposit will serve as a guarantee of the return, after the bidding, of all three sets of the documents in a usable condition. The deposit will be refunded to the bidder upon the return of the documents to the office of Williams & Dean within ten days of bid opening. Failure to return the bid documents promptly or in a usable condition may result in forfeiture of all or part of the deposit.

Additional sets of the drawings and specifications or partial sets may be obtained by subcontractor or material suppliers for the actual cost of printing, the cost of which is not refundable.

All bidders shall conform to the requirements of the Arkansas State Licensing Law for Contractor set forth in Act 150 of the 1965 General Assembly. The Owner reserves the right to waive any informalities in, or to reject any or all bids. No bidder may withdraw his bid within 60 days after the date of the opening thereof.

FIRE STATION
Griffithville, White County, Arkansas

SECTION 00010

INSTRUCTIONS TO BIDDERS

1. BID FORMS

- A. Bids must be submitted on forms provided herein. Submit one copy.
- B. Place Bid Documents, sealed in envelope, and clearly labeled with words "Bid Documents". Show job name and number, name of bidder, date and time of opening.
- C. In case of discrepancy between written amounts shown by bidder and amounts in figures on bid form, the amount written out rather than amount in figures shall govern.

2. INTERPRETATIONS

- A. No interpretation of plans, specifications or other bid documents will be made to any bidder orally. Request for such interpretation should be in writing addressed to Williams & Dean Architecture | Interior Design, 18 Corporate Hill Drive, Little Rock, AR 72205, (phone 501.224.1900, fax 501.224.0873) and to be given consideration must be received at least three days prior to date fixed for opening of bids.
- B. Interpretation and supplemental information is issued in form of written addenda mailed or faxed to the prospective prime contract bidders. Failure of bidder to receive any addendum or interpretation shall not relieve bidder from obligation under his bid as submitted. All addenda so issued shall become a part of contract documents.

3. OPENING OF BIDS

At time and place fixed for opening of bids, every bid received within time fixed for receiving bids will be opened and read aloud, irrespective of any irregularities therein. Bidders and other persons properly interested may be present, in person or by representative.

4. WITHDRAWAL OF BIDS PRIOR TO BID OPENING

Bids may be withdrawn on written or telegraphic request dispatched by bidder in time for delivery in normal course of business prior to time fixed for opening; provided, that written confirmation of any telegraphic withdrawal over signature of bidder is placed in the mail and postmarked prior to time set for bid opening. Negligence on the part of bidder in preparing his bid confers no right of withdrawal or modification of his bid after such bid has been opened.

5. QUALIFICATIONS OF BIDDER

Owner may make such investigation as he deems necessary to determine ability of bidder to perform Work, and bidder shall furnish to Owner all such information and data for this purpose Owner may request. Owner reserves right to reject bid of any bidder who has previously failed to perform properly, or to complete on time, contracts or similar nature; who is not in position to perform contract, or who has habitually and without just cause neglected payment of bills or otherwise disregarded obligations to subcontractors, materialmen, or employees.

6. BID INFORMALITIES AND REJECTION OF BIDS

Owner reserves right to waive any informalities in a bid or to reject any or all bids.

7. CONDITIONAL BIDS

Conditional bids will not be considered.



AIA[®]

Document A701[™] – 1997

Instructions to Bidders

for the following PROJECT:

(Name and location or address)

Sample Draft

THE OWNER:

(Name, legal status and address)

THE ARCHITECT:

(Name, legal status and address)

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ADDITIONS AND DELETIONS:

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

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

ARTICLE 1 DEFINITIONS

§ 1.1 Bidding Documents include the Bidding Requirements and the proposed Contract Documents. The Bidding Requirements consist of the Advertisement or Invitation to Bid, Instructions to Bidders, Supplementary Instructions to Bidders, the bid form, and other sample bidding and contract forms. The proposed Contract Documents consist of the form of Agreement between the Owner and Contractor, Conditions of the Contract (General, Supplementary and other Conditions), Drawings, Specifications and all Addenda issued prior to execution of the Contract.

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

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

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

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

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

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

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

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

ARTICLE 2 BIDDER'S REPRESENTATIONS

§ 2.1 The Bidder by making a Bid represents that:

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

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

§ 2.1.3 The Bidder has visited the site, become familiar with local conditions under which the Work is to be performed and has correlated the Bidder's personal observations with the requirements of the proposed Contract Documents.

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

§ 2.1.5 This Bid has been arrived at independently, without consultation, communication, or agreement as to any matter relating to this Bid, with any other Bidder or with any competitor.

ARTICLE 3 BIDDING DOCUMENTS

§ 3.1 COPIES

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

days after receipt of Bids. The cost of replacement of missing or damaged documents will be deducted from the deposit. A Bidder receiving a Contract award may retain the Bidding Documents and the Bidder's deposit will be refunded.

§ 3.1.2 Bidding Documents will not be issued directly to Sub-bidders unless specifically offered in the Advertisement or Invitation to Bid, or in supplementary instructions to bidders.

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

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

§ 3.2 INTERPRETATION OR CORRECTION OF BIDDING DOCUMENTS

§ 3.2.1 The Bidder shall carefully study and compare the Bidding Documents with each other, and with other work being bid concurrently or presently under construction to the extent that it relates to the Work for which the Bid is submitted, shall examine the site and local conditions, and shall at once report to the Architect errors, inconsistencies or ambiguities discovered.

§ 3.2.2 Bidders and Sub-bidders requiring clarification or interpretation of the Bidding Documents shall make a written request which shall reach the Architect at least seven days prior to the date for receipt of Bids.

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

§ 3.3 SUBSTITUTIONS

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

§ 3.3.2 No substitution will be considered prior to receipt of Bids unless written request for approval has been received by the Architect at least ten days prior to the date for receipt of Bids. Such requests shall include the name of the material or equipment for which it is to be substituted and a complete description of the proposed substitution including drawings, performance and test data, and other information necessary for an evaluation. A statement setting forth changes in other materials, equipment or other portions of the Work, including changes in the work of other contracts that incorporation of the proposed substitution would require, shall be included. The burden of proof of the merit of the proposed substitution is upon the proposer. The Architect's decision of approval or disapproval of a proposed substitution shall be final.

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

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

§ 3.4 ADDENDA

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

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

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

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

ARTICLE 4 BIDDING PROCEDURES

§ 4.1 PREPARATION OF BIDS

§ 4.1.1 Bids shall be submitted on the forms included with the Bidding Documents. Only one copy of the Bid is to be submitted.

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

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

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

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

§ 4.1.6 Where two or more Bids for designated portions of the Work have been requested, the Bidder may, without forfeiture of the bid security, state the Bidder's refusal to accept award of less than the combination of Bids stipulated by the Bidder. The Bidder shall make no additional stipulations on the bid form nor qualify the Bid in any other manner.

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

§ 4.2 BID SECURITY

§ 4.2.1 Each Bid must be accompanied by a Bid Bond payable to the Owner for five percent of the total amount of the Bid.

§ 4.2.2 The Bid Bond shall be written on a form identical to that included in the Bidding Documents, and the attorney-in-fact who executes the Bid Bond on behalf of the surety shall affix to the Bid Bond a certified and current copy of the power of attorney.

§ 4.2.3 The Owner will have the right to retain the bid security of Bidders to whom an award is being considered until either (a) the Contract has been executed and payment and performance bonds, if required, have been furnished, or (b) the specified time has elapsed so that Bids may be withdrawn or (c) all Bids have been rejected. As soon as the Bid prices have been compared, the Owner will return the Bid Bonds of all except the three lowest responsible Bidders. When the Agreement is executed, the Bid Bonds of the two remaining unsuccessful Bidder will be returned.

§ 4.2.4 If a Bidder refuses to execute the Agreement or obtain the Performance and Payment Bonds within the agreed time, the Owner may consider the Bidder in default, in which case the Bid Bond accompanying the Bid shall become the property of the Owner.

§ 4.3 SUBMISSION OF BIDS

§ 4.3.1 All copies of the Bid, the bid security, if any, and any other documents required to be submitted with the Bid shall be enclosed in a sealed opaque envelope. The envelope shall be addressed to the party receiving the Bids and shall be identified with the Project name, the Bidder's name and address and, if applicable, the designated portion of the Work for which the Bid is submitted. If the Bid is sent by mail, the sealed envelope shall be enclosed in a separate mailing envelope with the notation "SEALED BID ENCLOSED" on the face thereof.

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

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

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

§ 4.3.5 All applicable laws, ordinances, and the rules and regulations of all authorities having jurisdiction over construction of the Project, shall apply to the Contract throughout.

§ 4.3.6 The Bidder agrees to abide by the requirements of the Executive Order 11246, specifically including the provisions of the Equal Opportunity Clause and the Standard Federal Equal Employment Construction Contract Specifications set forth in the Supplementary Conditions.

§ 4.3.7 The Bidder agrees to abide by the requirements of section 319 of Public Law 101-121, which pertains to lobbying activities and applies to recipients of contracts or subcontracts that exceed \$100,000 at any tier under a Federal loan that exceeds \$150,000 or a Federal grant that exceeds \$100,000. Each Bid shall be accompanied by a completed lobbying certification form identical to that included in the Bidding Documents.

§ 4.3.8 The Bidder agrees to abide by the requirements under 7 C.F.R. part 3017, which pertains to the debarment or suspension of a person from participating in a Federal program or activity. Each Bid exceeding \$25,000 shall be accompanied by a relevant completed certification form identical to that included in the Bidding Documents.

§ 4.4 MODIFICATION OR WITHDRAWAL OF BID

§ 4.4.1 No Bidder may withdraw, modify or cancel a Bid within 60 calendar days after the actual date of the opening thereof. Should there be reasons why the Contract cannot be awarded within the specified period, the time may be extended by mutual agreement between the Owner and the Bidder, and the concurrency of the Agency.

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

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

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

ARTICLE 5 CONSIDERATION OF BIDS

§ 5.1 OPENING OF BIDS

At the discretion of the Owner, if stipulated in the Advertisement or Invitation to Bid, the properly identified Bids received on time will be publicly opened and will be read aloud. An abstract of the Bids may be made available to Bidders.

§ 5.2 REJECTION OF BIDS

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

§ 5.3 ACCEPTANCE OF BID (AWARD)

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

§ 5.3.2 The Owner shall have the right to accept Alternates in the sequence or combinations listed and to determine the low Bidder on the basis of the sum of the Base Bid and the Alternates accepted.

ARTICLE 6 POST-BID INFORMATION

§ 6.1 CONTRACTOR'S QUALIFICATION STATEMENT

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

§ 6.2 OWNER'S FINANCIAL CAPABILITY

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

§ 6.3 SUBMITTALS

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

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

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

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

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

ARTICLE 7 PERFORMANCE BOND AND PAYMENT BOND

§ 7.1 BOND REQUIREMENTS

§ 7.1.1 Prior to execution of the Contract, the Bidder shall furnish Bonds covering the faithful performance of the Contract and the payment of all obligations arising thereunder. Both Bonds shall be separately written, each in the amount of the Contract Sum. The cost shall be included in the Bid.

§ 7.1.2 Surety companies executing Bonds must hold a certificate of authority as a acceptable surety on Federal Bonds as listed in Treasury Circular 570, as amended, and be authorized to transact business in the State where the Project is located.

(Paragraph deleted)

§ 7.2 TIME OF DELIVERY AND FORM OF BONDS

§ 7.2.1 The Bidder to whom the Contract is awarded will be required to execute the Agreement and obtain Performance and Payment Bonds within ten (10) calendar days from the date when the Notice of Award is delivered to the Bidder. The Notice shall be accompanied by the necessary Agreement and Bond forms.

| § 7.2.2 The Bonds shall be written on forms identical to those included in the Bidding Documents.

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

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

ARTICLE 8 FORM OF AGREEMENT BETWEEN OWNER AND CONTRACTOR

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

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

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

Note: This Additions and Deletions Report is provided for information purposes only and is not incorporated into or constitute any part of the associated AIA document. This Additions and Deletions Report and its associated document were generated simultaneously by AIA software at 11:10:59 on 10/31/2016.

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Sample Draft

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§ 2.1.5 This Bid has been arrived at independently, without consultation, communication, or agreement as to any matter relating to this Bid, with any other Bidder or with any competitor.

PAGE 4

§ 4.1.1 Bids shall be submitted on the forms included with the Bidding Documents. Only one copy of the Bid is to be submitted.

...

§ 4.2.1 Each Bid shall be accompanied by a bid security in the form and amount required if so stipulated in the Instructions to Bidders. The Bidder pledges to enter into a Contract with the Owner on the terms stated in the Bid and will, if required, furnish bonds covering the faithful performance of the Contract and payment of all obligations arising thereunder. Should the Bidder refuse to enter into such Contract or fail to furnish such bonds if required, the amount of the bid security shall be forfeited to the Owner as liquidated damages, not as a penalty. The amount of the bid security shall not be forfeited to the Owner in the event the Owner fails to comply with Section 6.2. must be accompanied by a Bid Bond payable to the Owner for five percent of the total amount of the Bid.

§ 4.2.2 If a surety bond is required, it shall be written on AIA Document A310, Bid Bond, unless otherwise provided. The Bid Bond shall be written on a form identical to that included in the Bidding Documents, and the attorney-in-fact who executes the ~~bond~~ Bid Bond on behalf of the surety shall affix to the ~~bond~~ Bid Bond a certified and current copy of the power of attorney.

§ 4.2.3 The Owner will have the right to retain the bid security of Bidders to whom an award is being considered until either (a) the Contract has been executed and payment and performance bonds, if required, have been furnished, or (b) the specified time has elapsed so that Bids may be withdrawn or (c) all Bids have been rejected. As soon as the Bid prices have been compared, the Owner will return the Bid Bonds of all except the three lowest responsible Bidders. When the Agreement is executed, the Bid Bonds of the two remaining unsuccessful Bidder will be returned.

§ 4.2.4 If a Bidder refuses to execute the Agreement or obtain the Performance and Payment Bonds within the agreed time, the Owner may consider the Bidder in default, in which case the Bid Bond accompanying the Bid shall become the property of the Owner.

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§ 4.3.5 All applicable laws, ordinances, and the rules and regulations of all authorities having jurisdiction over construction of the Project, shall apply to the Contract throughout.

§ 4.3.6 The Bidder agrees to abide by the requirements of the Executive Order 11246, specifically including the provisions of the Equal Opportunity Clause and the Standard Federal Equal Employment Construction Contract Specifications set forth in the Supplementary Conditions.

§ 4.3.7 The Bidder agrees to abide by the requirements of section 319 of Public Law 101-121, which pertains to lobbying activities and applies to recipients of contracts or subcontracts that exceed \$100,000 at any tier under a Federal loan that exceeds \$150,000 or a Federal grant that exceeds \$100,000. Each Bid shall be accompanied by a completed lobbying certification form identical to that included in the Bidding Documents.

§ 4.3.8 The Bidder agrees to abide by the requirements under 7 C.F.R. part 3017, which pertains to the debarment or suspension of a person from participating in a Federal program or activity. Each Bid exceeding \$25,000 shall be accompanied by a relevant completed certification form identical to that included in the Bidding Documents.

§ 4.4.1 A Bid may not be modified, withdrawn or canceled by the Bidder during the stipulated time period following the time and date designated for the receipt of Bids, and each Bidder so agrees in submitting a Bid. No Bidder may withdraw, modify or cancel a Bid within 60 calendar days after the actual date of the opening thereof. Should there be reasons why the Contract cannot be awarded within the specified period, the time may be extended by mutual agreement between the Owner and the Bidder, and the concurrency of the Agency.

...

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

PAGE 6

§ 5.3.2 The Owner shall have the right to accept Alternates in any order or combination, unless otherwise specifically provided in the Bidding Documents, the sequence or combinations listed and to determine the low Bidder on the basis of the sum of the Base Bid and the Alternates accepted.

...

§ 7.1.1 If stipulated in the Bidding Documents, Prior to execution of the Contract, the Bidder shall furnish bonds covering the faithful performance of the Contract and the payment of all obligations arising thereunder. Bonds may be secured through the Bidder's usual sources. Both Bonds shall be separately written, each in the amount of the Contract Sum. The cost shall be included in the Bid.

§ 7.1.2 If the furnishing of such bonds is stipulated in the Bidding Documents, the cost shall be included in the Bid. If the furnishing of such bonds is required after receipt of bids and before execution of the Contract, the cost of such bonds shall be added to the Bid in determining the Contract Sum. Surety companies executing Bonds must hold a certificate of authority as a acceptable surety on Federal Bonds as listed in Treasury Circular 570, as amended, and be authorized to transact business in the State where the Project is located.

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

§ 7.2.1 The Bidder shall deliver the required bonds to the Owner not later than three days following the date of execution of the Contract. If the Work is to be commenced prior thereto in response to a letter of intent, the Bidder shall, prior to commencement of the Work, submit evidence satisfactory to the Owner that such bonds will be furnished and delivered in accordance with this Section 7.2.1 to whom the Contract is awarded will be required to execute the Agreement and obtain Performance and Payment Bonds within ten (10) calendar days from the date

when the Notice of Award is delivered to the Bidder. The Notice shall be accompanied by the necessary Agreement and Bond forms.

§ 7.2.2 Unless otherwise provided, the bonds shall be written on AIA Document A312, Performance Bond and Payment Bond. Both bonds shall be written in the amount of the Contract Sum. The Bonds shall be written on forms identical to those included in the Bidding Documents.

U.S. Department of Labor

Wage and Hour Division
Washington, D.C. 20210



JUN 15 2016

Ms. Mitzi Hargan, Grants Manager
White River Planning & Development District
P. O. Box 2396
Batesville, AR 72503
mitzi@wrpdd.org
Fax: 870-793-4035

RE: Project No.: AEDC #790-08861-14
Wage Decision No.: AR160110 MOD 2
Location: White County, Arkansas - *Griffithville*
WHD Number: 4427

Dear Ms. Hargan:

This is in response to your request proposing the addition of classifications and wage rates to the above wage decision in accordance with 29 CFR 5.5(a)(1)(ii).

The proposed additional classifications and wage rates are:

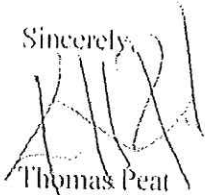
<u>CLASSIFICATIONS</u>	<u>BASIC HOURLY RATES</u>	<u>FRINGE BENEFITS</u>
HVAC Technician	\$15.55	\$0.00
Metal Building Erector	\$14.00	\$0.00

The request for **HVAC Technician** is not approved because the proposed wage rate, including fringe benefits, does not bear a reasonable relationship to wage rates contained in the wage decision [see Section 5.5(a)(1)(ii)(A)(3)]. **The conformed rate is \$13.47 per hour plus \$2.53 in fringe benefits.** This is the minimum wage for all workers performing in this classification under this contract. This conformed wage and fringe benefit rate must be paid, retroactively, to the first day work is performed.

The request for **Metal Building Erector** is not approved because the work to be performed by this classification may be performed by a classification already included in the wage decision [see 29 C.F.R., section 5.5(a)(1)(ii)(A)(1)]. **The appropriate classification is Ironworker, Structural at a rate of \$18.50 per hour plus \$15.50 in fringe benefits and shall be paid to all workers performing work in the classification under this contract from the first day on which work is performed.**

Your request has been conformed consistent with All Agency Memorandum 213 (<http://www.wdol.gov/aam/aam?13.pdf>) which describes the conformance process in detail and the basis on which your proposed rate was denied. Any requests for appeal of the conformance decision must be made within thirty (30) days from the date of this letter. If you have any questions or concerns regarding this conformance request, please contact Ms. Towanda Rhames at 202.693.0297 or email at Rhames.towanda@wdol.gov.

Sincerely,



Thomas Peat
Branch Chief

Branch of Construction Wage Determinations

202.693.1010

Peat.Thomas@wdol.gov

General Decision Number: AR160110 04/01/2016 AR110

Superseded General Decision Number: AR20150110

State: Arkansas

Construction Type: Building
Building Construction

County: White County in Arkansas.

BUILDING CONSTRUCTION PROJECTS (does not include single family homes or apartments up to and including 4 stories).

Note: Under Executive Order (EO) 13658, an hourly minimum wage of \$10.15 for calendar year 2016 applies to all contracts subject to the Davis-Bacon Act for which the solicitation was issued on or after January 1, 2015. If this contract is covered by the EO, the contractor must pay all workers in any classification listed on this wage determination at least \$10.15 (or the applicable wage rate listed on this wage determination, if it is higher) for all hours spent performing on the contract in calendar year 2016. The EO minimum wage rate will be adjusted annually. Additional information on contractor requirements and worker protections under the EO is available at www.dol.gov/whd/govcontracts.

Modification Number	Publication Date
0	01/08/2016
1	02/26/2016
2	04/01/2016

BOIL0069-001 01/01/2014

	Rates	Fringes
BOILERMAKER.....	\$ 25.37	20.58

ELEC0295-003 09/01/2015

	Rates	Fringes
ELECTRICIAN		
Electrical contracts over \$1,500,000.....	\$ 27.43	11.57
Electrical contracts under \$1,500,000.....	\$ 24.14	11.60

IRON0321-008 08/01/2013

	Rates	Fringes
IRONWORKER, STRUCTURAL.....	\$ 18.50	15.50

* PLUM0155-008 09/01/2015

	Rates	Fringes
PIPEFITTER.....	\$ 25.57	8.78

NOTE: If a classification has an hourly rate for fringe benefits listed, this rate must be added to the regular hourly rate if the hourly rate of fringe is not covered by fringe benefits paid by the employer. Fringe benefits cover such things as medical, vacation, pension but not uniforms or per diem. Questions should be addressed to Mitzi Hargan or Carrie McIntosh at 870.793.5233.

ROOFER.....\$ 21.00 5.86

SFAR0669-001 01/01/2016

Rates Fringes

SPRINKLER FITTER (Fire Sprinklers).....\$ 24.29 17.22

SUAR2008-107 11/20/2008

Rates Fringes

BRICKLAYER.....\$ 16.00 0.74

CARPENTER, Includes Acoustical Ceiling Installation, Drywall Hanging, and Form Work.....\$ 14.67 0.00

CEMENT MASON/CONCRETE FINISHER...\$ 13.47 2.53

IRONWORKER, REINFORCING.....\$ 20.46 4.53

LABORER: Common or General.....\$ ~~9.37~~ 10.15 0.29

LABORER: Mason Tender - Brick...\$ ~~9.25~~ 10.15 0.00

OPERATOR: Backhoe/Excavator.....\$ 12.50 1.97

OPERATOR: Bulldozer.....\$ 11.08 0.00

OPERATOR: Crane.....\$ 15.00 0.00

PAINTER: Brush, Roller and Spray.....\$ 12.43 0.00

PLUMBER.....\$ 16.14 0.00

TRUCK DRIVER, Includes Dump Truck.....\$ 11.00 0.00

TRUCK DRIVER: Flatbed Truck.....\$ 12.00 0.00

WELDERS - Receive rate prescribed for craft performing operation to which welding is incidental.

=====

Unlisted classifications needed for work not included within the scope of the classifications listed may be added after award only as provided in the labor standards contract clauses (29CFR 5.5 (a) (1) (ii)).

The body of each wage determination lists the classification and wage rates that have been found to be prevailing for the cited type(s) of construction in the area covered by the wage determination. The classifications are listed in alphabetical

Additional Rates:

HVAC Technician:

Basic Hourly Rate: \$13.47

Fringe Benefits: \$ 2.53

Metal Building Erector:

Must use Ironworker, Structural (see attached letter from Department of Labor).

order of "identifiers" that indicate whether the particular rate is a union rate (current union negotiated rate for local), a survey rate (weighted average rate) or a union average rate (weighted union average rate).

Union Rate Identifiers

A four letter classification abbreviation identifier enclosed in dotted lines beginning with characters other than "SU" or "UAVG" denotes that the union classification and rate were prevailing for that classification in the survey. Example: PLUM0198-005 07/01/2014. PLUM is an abbreviation identifier of the union which prevailed in the survey for this classification, which in this example would be Plumbers. 0198 indicates the local union number or district council number where applicable, i.e., Plumbers Local 0198. The next number, 005 in the example, is an internal number used in processing the wage determination. 07/01/2014 is the effective date of the most current negotiated rate, which in this example is July 1, 2014.

Union prevailing wage rates are updated to reflect all rate changes in the collective bargaining agreement (CBA) governing this classification and rate.

Survey Rate Identifiers

Classifications listed under the "SU" identifier indicate that no one rate prevailed for this classification in the survey and the published rate is derived by computing a weighted average rate based on all the rates reported in the survey for that classification. As this weighted average rate includes all rates reported in the survey, it may include both union and non-union rates. Example: SULA2012-007 5/13/2014. SU indicates the rates are survey rates based on a weighted average calculation of rates and are not majority rates. LA indicates the State of Louisiana. 2012 is the year of survey on which these classifications and rates are based. The next number, 007 in the example, is an internal number used in producing the wage determination. 5/13/2014 indicates the survey completion date for the classifications and rates under that identifier.

Survey wage rates are not updated and remain in effect until a new survey is conducted.

Union Average Rate Identifiers

Classification(s) listed under the UAVG identifier indicate that no single majority rate prevailed for those classifications; however, 100% of the data reported for the classifications was union data. EXAMPLE: UAVG-OH-0010 08/29/2014. UAVG indicates that the rate is a weighted union average rate. OH indicates the state. The next number, 0010 in the example, is an internal number used in producing the wage determination. 08/29/2014 indicates the survey completion date for the classifications and rates under that identifier.

A UAVG rate will be updated once a year, usually in January of each year, to reflect a weighted average of the current negotiated/CBA rate of the union locals from which the rate is based.

WAGE DETERMINATION APPEALS PROCESS

1.) Has there been an initial decision in the matter? This can be:

- * an existing published wage determination
- * a survey underlying a wage determination
- * a Wage and Hour Division letter setting forth a position on a wage determination matter
- * a conformance (additional classification and rate) ruling

On survey related matters, initial contact, including requests for summaries of surveys, should be with the Wage and Hour Regional Office for the area in which the survey was conducted because those Regional Offices have responsibility for the Davis-Bacon survey program. If the response from this initial contact is not satisfactory, then the process described in 2.) and 3.) should be followed.

With regard to any other matter not yet ripe for the formal process described here, initial contact should be with the Branch of Construction Wage Determinations. Write to:

Branch of Construction Wage Determinations
Wage and Hour Division
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

2.) If the answer to the question in 1.) is yes, then an interested party (those affected by the action) can request review and reconsideration from the Wage and Hour Administrator (See 29 CFR Part 1.8 and 29 CFR Part 7). Write to:

Wage and Hour Administrator
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

The request should be accompanied by a full statement of the interested party's position and by any information (wage payment data, project description, area practice material, etc.) that the requestor considers relevant to the issue.

3.) If the decision of the Administrator is not favorable, an interested party may appeal directly to the Administrative Review Board (formerly the Wage Appeals Board). Write to:

Administrative Review Board
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

4.) All decisions by the Administrative Review Board are final.

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END OF GENERAL DECISION



AIA[®]

Document A101[™] – 2007

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

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

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

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

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

A one story 4200 square foot pre-engineered metal building with metal wall panels and concrete slab on grade. The structure is to be located on 112 Main Street, Griffithville (White County) Arkansas.

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

Williams & Dean Architecture | Interior Design
18 Corporate Hill Drive, Suite 210
Little Rock, Arkansas 72205
501-224-1900

The Owner and Contractor agree as follows.

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

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

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

TABLE OF ARTICLES

1	THE CONTRACT DOCUMENTS
2	THE WORK OF THIS CONTRACT
3	DATE OF COMMENCEMENT AND SUBSTANTIAL COMPLETION
4	CONTRACT SUM
5	PAYMENTS
6	DISPUTE RESOLUTION
7	TERMINATION OR SUSPENSION
8	MISCELLANEOUS PROVISIONS
9	ENUMERATION OF CONTRACT DOCUMENTS
10	INSURANCE AND BONDS

ARTICLE 1 THE CONTRACT DOCUMENTS

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

ARTICLE 2 THE WORK OF THIS CONTRACT

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

ARTICLE 3 DATE OF COMMENCEMENT AND SUBSTANTIAL COMPLETION

§ 3.1 The date of commencement shall be contained in the Notice to Proceed.

If, prior to the commencement of the Work, the Owner requires time to file mortgages and other security interests, the Owner's time requirement shall be as follows:

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

§ 3.3 The Contractor shall achieve Substantial Completion of the entire Work not later than One hundred fifty (150) days from the date of commencement, or as follows:

(Insert number of calendar days. Alternatively, a calendar date may be used when coordinated with the date of commencement. If appropriate, insert requirements for earlier Substantial Completion of certain portions of the Work.)

If the work is not substantially complete on or before this date, or within this period of time, or extension thereof granted by the Owner, damage will be sustained by the Owner and that it is and will be impracticable and extremely difficult to fix the actual damage which the Owner will sustain the event of and by reason of such delays. The

Contractor shall pay to the Owner liquidated damages in the sum of **\$250.00** for each calendar day of delay. Any sums that may be due the Owner as liquidated damages may be deducted from any monies due or to be come due the Contractor under the Contract or may be collected form the Contractor's surety.

Portion of Work

Substantial Completion Date

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

ARTICLE 4 CONTRACT SUM

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

§ 4.2 The Contract Sum is based upon the following alternates, if any, which are described in the Contract Documents and are hereby accepted by the Owner:
(State the numbers or other identification of accepted alternates. If the bidding or proposal documents permit the Owner to accept other alternates subsequent to the execution of this Agreement, attach a schedule of such other alternates showing the amount for each and the date when that amount expires.)

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

Item	Units and Limitations	Price Per Unit (\$0.00)
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§ 4.4 Allowances included in the Contract Sum, if any:
(Identify allowance and state exclusions, if any, from the allowance price.)

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

ARTICLE 5 PAYMENTS

§ 5.1 PROGRESS PAYMENTS

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

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

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

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

Sum among the various portions of the Work. The schedule of values shall be prepared in such form and supported by such data to substantiate its accuracy as the Architect may require. This schedule, unless objected to by the Architect, shall be used as a basis for reviewing the Contractor's Applications for Payment.

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

§ 5.1.6 Subject to other provisions of the Contract Documents, the amount of each progress payment shall be computed as follows:

- .1 Take that portion of the Contract Sum properly allocable to completed Work as determined by multiplying the percentage completion of each portion of the Work by the share of the Contract Sum allocated to that portion of the Work in the schedule of values, less retainage of ten percent (10 %).
- .2 Add that portion of the Contract Sum properly allocable to materials and equipment delivered and suitably stored at the site for subsequent incorporation in the completed, less retainage of ten percent (10 %);
- .3 Subtract the aggregate of previous payments made by the Owner; and
- .4 Subtract amounts, if any, for which the Architect has withheld or nullified a Certificate for Payment as provided in Section 9.5 of AIA Document A201–2007.

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

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

§ 5.1.8 Reduction or limitation of retainage, if any, shall be as follows:

(If it is intended, prior to Substantial Completion of the entire Work, to reduce or limit the retainage resulting from the percentages inserted in Sections 5.1.6.1 and 5.1.6.2 above, and this is not explained elsewhere in the Contract Documents, insert here provisions for such reduction or limitation.)

The amount retained shall be 10% of the value of Work until 50% of the Work has been completed. At 50% completion, further partial payments shall be made in full to the Contractor and no additional amounts may be retained unless the Architect certifies that the Work is not proceeding satisfactorily, but amounts previously retained shall not be paid to the Contractor. At 50% completion or any time thereafter when the progress of the Work is not satisfactory, additional amounts may be retained but in no event shall the total retainage be more than 10% of the value of Work completed.

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

§ 5.2 FINAL PAYMENT

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

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

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

ARTICLE 6 DISPUTE RESOLUTION

§ 6.1 INITIAL DECISION MAKER

The Architect will serve as Initial Decision Maker pursuant to Section 15.2 of AIA Document A201–2007, unless the parties appoint below another individual, not a party to this Agreement, to serve as Initial Decision Maker.
(If the parties mutually agree, insert the name, address and other contact information of the Initial Decision Maker, if other than the Architect.)

§ 6.2 BINDING DISPUTE RESOLUTION

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

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

- Arbitration pursuant to Section 15.4 of AIA Document A201–2007
- Litigation in a court of competent jurisdiction
- Other *(Specify)*

ARTICLE 7 TERMINATION OR SUSPENSION

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

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

ARTICLE 8 MISCELLANEOUS PROVISIONS

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

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

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

%

§ 8.3 The Owner's representative:
(Name, address and other information)

§ 8.4 The Contractor's representative:
(Name, address and other information)

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

§ 8.6 Other provisions:

8.6.1 This Agreement shall not become effective until concurred in writing by the Agency. Such concurrence shall be evidenced by the signature of a duly authorized representative of the Agency in the space provided at the end of this Attachment to the Agreement. The concurrence so evidenced by the Agency shall in no way commit the Agency to render financial assistance to the Owner and is without liability to the Agency for any payment thereunder, but in the event such assistance is provided, the concurrence shall signify the provisions of this Agreement are consistent with Agency requirements.

ARTICLE 9 ENUMERATION OF CONTRACT DOCUMENTS

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

§ 9.1.1 The Agreement is this executed AIA Document A101-2007, Standard Form of Agreement Between Owner and Contractor as modified per RD Instruction 1942-A Guide 27 Attachment 3 (09-24-12)

§ 9.1.2 The General Conditions are AIA Document A201-2007, General Conditions of the Contract for Construction as modified per RD Instruction 1942-A, Guide 27 Attachment 4 (09-24-12).

§ 9.1.3 The Supplementary and other Conditions of the Contract:

Document	Title	Date	Pages
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§ 9.1.4 The Specifications:
(Either list the Specifications here or refer to an exhibit attached to this Agreement.)
Included herewith

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

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

Number	Title	Date
1	BOUNDARY SURVEY	12 MAY 2016
A0.1	SITE GRADING & UTILITY PLAN	7 JULY 2016
A1.1	FLOOR PLAN	7 JULY 2016
A2.1	ROOF PLAN & REFLECTED CEILING PLAN	7 JULY 2016
A3.1	EXTERIOR ELEVATIONS	7 JULY 2016

A4.1	BUILDING SECTIONS	7 JULY 2016
A5.1	WALL SECTIONS	7 JULY 2016
A6.1	ENLARGED BATHROOM PLANS & ELEVATIONS	7 JULY 2016
A7.1	DOOR & WINDOW SCHEDULE	7 JULY 2016
A7.2	FLOOR FINISH PLAN	7 JULY 2016
S1.0	GENERAL NOTES	7 JULY 2016
S1.1	FOUNDATION PLAN & DETAILS	7 JULY 2016
M1.1	HVAC PLAN & DETAILS	7 JULY 2016
P1.1	PLUMBING PLAN & DETAILS	7 JULY 2016
E1.1	LIGHTING PLAN	7 JULY 2016
E2.2	POWER AND SYSTEMS PLAN	7 JULY 2016

§ 9.1.6 The Addenda, if any:

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

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

- .1 AIA Document E201™–2007, Digital Data Protocol Exhibit, if completed by the parties, or the following:

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

ARTICLE 10 INSURANCE AND BONDS

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

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

Type of insurance or bond	Limit of liability or bond amount (\$0.00)
---------------------------	--

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

In Witness Whereof, the parties hereto have executed, or caused to be executed by their duly authorized officials, this Agreement in duplicate on the respective dates indicated below:

ATTEST:	OWNER:
_____	By _____
Type Name	Type Name
Title	Title
_____	_____
Date	Date

ATTEST:	CONTRACTOR:
_____	By _____
Type Name	Type Name
Title	Title
_____	_____
Date	Date
_____	_____
<i>(Row deleted)</i>	

(Row deleted)

AGENCY CONCURRENCE:

By _____

Type Name

Title

Date

The concurrence so evidenced by the Agency shall in no way commit the Agency to render financial assistance to the Owner and is without liability to the Agency for any payment hereunder, but in the event such assistance is provided, the concurrence shall signify the provisions of this Agreement are consistent with Agency requirements.

Additions and Deletions Report for

AIA® Document A101™ – 2007

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

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PAGE 1

A one story 4200 square foot pre-engineered metal building with metal wall panels and concrete slab on grade. The structure is to be located on 112 Main Street, Griffithville (White County) Arkansas.

...

Williams & Dean Architecture | Interior Design
18 Corporate Hill Drive, Suite 210
Little Rock, Arkansas 72205
501-224-1900

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§ 3.1 The date of commencement of the Work shall be the date of this Agreement unless a different date is stated below or provision is made for the date to be fixed in a notice to proceed issued by the Owner.
(~~Insert the date of commencement if it differs from the date of this Agreement or, if applicable, state that the date will be fixed in a notice to proceed.~~)shall be contained in the Notice to Proceed.

...

§ 3.3 The Contractor shall achieve Substantial Completion of the entire Work not later than One hundred fifty (150) days from the date of commencement, or as follows:

...

If the work is not substantially complete on or before this date, or within this period of time, or extension thereof granted by the Owner, damage will be sustained by the Owner and that it is and will be impracticable and extremely difficult to fix the actual damage which the Owner will sustain the event of and by reason of such delays. The Contractor shall pay to the Owner liquidated damages in the sum of \$250.00 for each calendar day of delay. Any sums that may be due the Owner as liquidated damages may be deducted from any monies due or to be come due the Contractor under the Contract or may be collected form the Contractor's surety.

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- .1 Take that portion of the Contract Sum properly allocable to completed Work as determined by multiplying the percentage completion of each portion of the Work by the share of the Contract Sum allocated to that portion of the Work in the schedule of values, less retainage of percent (~~—~~ %).
Pending final determination of cost to the Owner of changes in the Work, amounts not in dispute shall be included as provided in Section 7.3.9 of AIA Document A201™ 2007, General Conditions of the Contract for Construction; ten percent (10 %).
- .2 Add that portion of the Contract Sum properly allocable to materials and equipment delivered and suitably stored at the site for subsequent incorporation in the ~~completed construction (or, if approved~~

in advance by the Owner, suitably stored off the site at a location agreed upon in writing), less retainage of percent (completed, less retainage of ten percent (10 %);

...

The amount retained shall be 10% of the value of Work until 50% of the Work has been completed. At 50% completion, further partial payments shall be made in full to the Contractor and no additional amounts may be retained unless the Architect certifies that the Work is not proceeding satisfactorily, but amounts previously retained shall not be paid to the Contractor. At 50% completion or any time thereafter when the progress of the Work is not satisfactory, additional amounts may be retained but in no event shall the total retainage be more than 10% of the value of Work completed.

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[X] Arbitration pursuant to Section 15.4 of AIA Document A201-2007

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8.6.1 This Agreement shall not become effective until concurred in writing by the Agency. Such concurrence shall be evidences by the signature of a duly authorized representative of the Agency in the space provided at the end of this Attachment to the Agreement. The concurrence so evidenced by the Agency shall in no way commit the Agency to render financial assistance to the Owner and is without liability to the Agency for any payment thereunder, but in the event such assistance is provided, the concurrence shall signify the provisions of this Agreement are consistent with Agency requirements.

...

§ 9.1.1 The Agreement is this executed AIA Document A101-2007, Standard Form of Agreement Between Owner and Contractor. Contractor as modified per RD Instruction 1942-A Guide 27 Attachment 3 (09-24-12)

§ 9.1.2 The General Conditions are AIA Document A201-2007, General Conditions of the Contract for Construction. Construction as modified per RD Instruction 1942-A, Guide 27 Attachment 4 (09-24-12).

...

Included herewith

...

<u>1</u>	<u>BOUNDARY SURVEY</u>	<u>12 MAY 2016</u>
<u>A0.1</u>	<u>SITE GRADING & UTILITY</u>	<u>7 JULY 2016</u>
	<u>PLAN</u>	
<u>A1.1</u>	<u>FLOOR PLAN</u>	<u>7 JULY 2016</u>
<u>A2.1</u>	<u>ROOF PLAN &</u>	<u>7 JULY 2016</u>
	<u>REFLECTED CEILING</u>	
	<u>PLAN</u>	
<u>A3.1</u>	<u>EXTERIOR ELEVATIONS</u>	<u>7 JULY 2016</u>
<u>A4.1</u>	<u>BUILDING SECTIONS</u>	<u>7 JULY 2016</u>
<u>A5.1</u>	<u>WALL SECTIONS</u>	<u>7 JULY 2016</u>
<u>A6.1</u>	<u>ENLARGED BATHROOM</u>	<u>7 JULY 2016</u>
	<u>PLANS & ELEVATIONS</u>	
<u>A7.1</u>	<u>DOOR & WINDOW</u>	<u>7 JULY 2016</u>
	<u>SCHEDULE</u>	
<u>A7.2</u>	<u>FLOOR FINISH PLAN</u>	<u>7 JULY 2016</u>
<u>S1.0</u>	<u>GENERAL NOTES</u>	<u>7 JULY 2016</u>
<u>S1.1</u>	<u>FOUNDATION PLAN &</u>	<u>7 JULY 2016</u>
	<u>DETAILS</u>	

M1.1
P1.1

E1.1
E2.2

HVAC PLAN & DETAILS
PLUMBING PLAN &
DETAILS
LIGHTING PLAN
POWER AND SYSTEMS
PLAN

7 JULY 2016
7 JULY 2016
7 JULY 2016
7 JULY 2016

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

In Witness Whereof, the parties hereto have executed, or caused to be executed by their duly authorized officials, this Agreement in duplicate on the respective dates indicated below:

<u>ATTEST:</u>	<u>OWNER:</u>
_____	<u>By</u>
<u>Type Name</u>	_____
<u>Title</u>	<u>Type Name</u>
_____	_____
<u>Date</u>	<u>Title</u>
_____	_____
	<u>Date</u>

<u>ATTEST:</u>	<u>CONTRACTOR:</u>
_____	<u>By</u>
<u>Type Name</u>	_____
<u>Title</u>	<u>Type Name</u>
_____	_____
<u>Date</u>	<u>Title</u>
_____	_____
<u>OWNER (Signature)</u>	<u>Date</u>
_____	_____
<u>CONTRACTOR (Signature)</u>	_____
_____	_____
<i>(Printed name and title)</i>	<i>(Printed name and title)</i>

AGENCY CONCURRENCE:

By

Type Name
Title

Date

The concurrence so evidenced by the Agency shall in no way commit the Agency to render financial assistance to the Owner and is without liability to the Agency for any payment hereunder, but in the event such assistance is provided, the concurrence shall signify the provisions of this Agreement are consistent with Agency requirements.



AIA[®]

Document A201™ – 2007

General Conditions of the Contract for Construction

for the following PROJECT:

(Name and location or address)

Sample Draft

THE OWNER:

(Name, legal status and address)

THE ARCHITECT:

(Name, legal status and address)

TABLE OF ARTICLES

- 1 GENERAL PROVISIONS
- 2 OWNER
- 3 CONTRACTOR
- 4 ARCHITECT
- 5 SUBCONTRACTORS
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- 8 TIME
- 9 PAYMENTS AND COMPLETION
- 10 PROTECTION OF PERSONS AND PROPERTY
- 11 INSURANCE AND BONDS
- 12 UNCOVERING AND CORRECTION OF WORK
- 13 MISCELLANEOUS PROVISIONS
- 14 TERMINATION OR SUSPENSION OF THE CONTRACT
- 15 CLAIMS AND DISPUTES

ADDITIONS AND DELETIONS:

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

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

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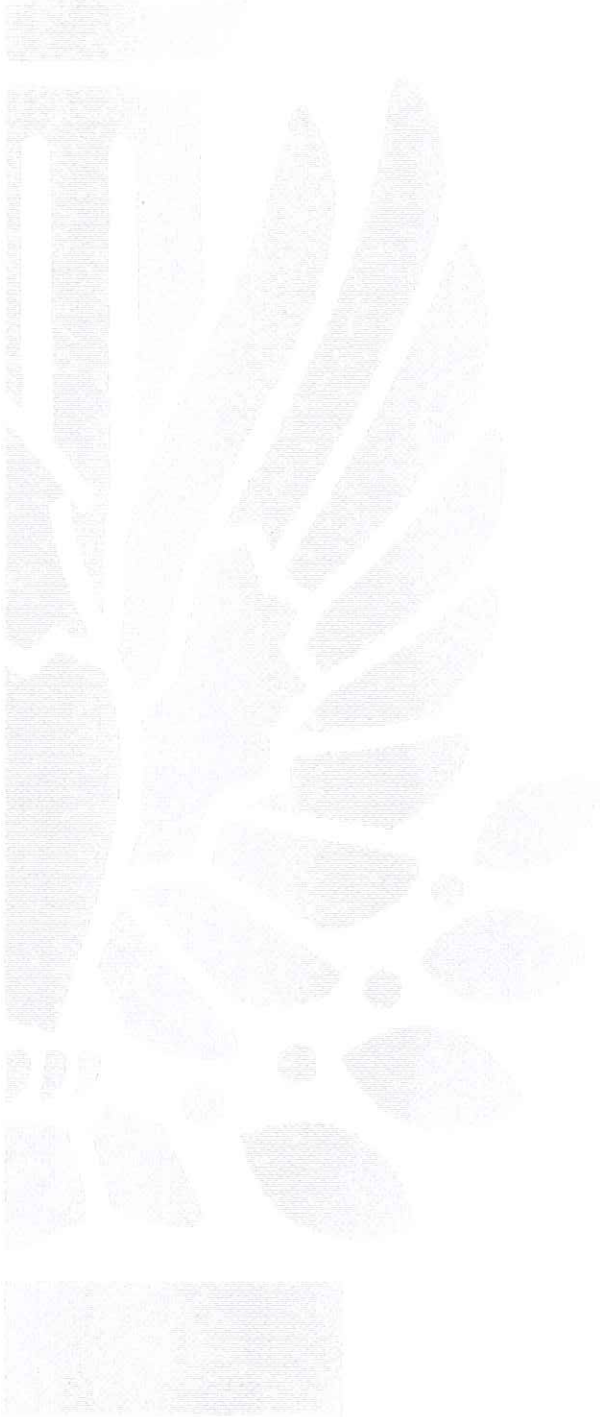
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ARTICLE 1 GENERAL PROVISIONS

§ 1.1 BASIC DEFINITIONS

§ 1.1.1 THE CONTRACT DOCUMENTS

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

§ 1.1.2 THE CONTRACT

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

§ 1.1.3 THE WORK

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

§ 1.1.4 THE PROJECT

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

§ 1.1.5 THE DRAWINGS

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

§ 1.1.6 THE SPECIFICATIONS

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

§ 1.1.7 INSTRUMENTS OF SERVICE

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

§ 1.1.8 INITIAL DECISION MAKER

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

§ 1.2 CORRELATION AND INTENT OF THE CONTRACT DOCUMENTS

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

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

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

§ 1.2.4 Concurrence of the Contract by the Agency is required before it is effective.

§ 1.3 CAPITALIZATION

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

§ 1.4 INTERPRETATION

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

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

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

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

§ 1.6 TRANSMISSION OF DATA IN DIGITAL FORM

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

ARTICLE 2 OWNER

§ 2.1 GENERAL

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

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

§ 2.2 INFORMATION AND SERVICES REQUIRED OF THE OWNER

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

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the Contractor identifies in writing a reasonable concern regarding the Owner's ability to make payment when due. The Owner shall furnish such evidence as a condition precedent to commencement or continuation of the Work or the portion of the Work affected by a material change. After the Owner furnishes the evidence, the Owner shall not materially vary such financial arrangements without prior notice to the Contractor.

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

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

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

§ 2.2.5 The Contractor will be furnished, free of charge, _____ copies of the Drawings and Projects Manuals necessary for execution of the Work. Additional copies will be available from the Architect at the cost of reproduction and handling.

§ 2.3 OWNER'S RIGHT TO STOP THE WORK

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

§ 2.4 OWNER'S RIGHT TO CARRY OUT THE WORK

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

ARTICLE 3 CONTRACTOR

§ 3.1 GENERAL

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

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

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

§ 3.2 REVIEW OF CONTRACT DOCUMENTS AND FIELD CONDITIONS BY CONTRACTOR

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

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

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

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

§ 3.3 SUPERVISION AND CONSTRUCTION PROCEDURES

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

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

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

§ 3.4 LABOR AND MATERIALS

§ 3.4.1 Unless otherwise provided in the Contract Documents, the Contractor shall provide and pay for labor, materials, equipment, tools, construction equipment and machinery, water, heat, utilities, transportation, and other

facilities and services necessary for proper execution and completion of the Work, whether temporary or permanent and whether or not incorporated or to be incorporated in the Work.

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

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

§ 3.5 WARRANTY

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

§ 3.6 TAXES

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

§ 3.7 PERMITS, FEES, NOTICES AND COMPLIANCE WITH LAWS

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

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

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

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

§ 3.7.5 If, in the course of the Work, the Contractor encounters human remains or recognizes the existence of burial markers, archaeological sites or wetlands not indicated in the Contract Documents, the Contractor shall immediately suspend any operations that would affect them and shall notify the Owner and Architect. Upon receipt of such notice, the Owner shall promptly take any action necessary to obtain governmental authorization required to resume

the operations. The Contractor shall continue to suspend such operations until otherwise instructed by the Owner but shall continue with all other operations that do not affect those remains or features. Requests for adjustments in the Contract Sum and Contract Time arising from the existence of such remains or features may be made as provided in Article 15.

§ 3.8 ALLOWANCES

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

§ 3.8.2 Unless otherwise provided in the Contract Documents,

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

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

§ 3.9 SUPERINTENDENT

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

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

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

§ 3.10 CONTRACTOR'S CONSTRUCTION SCHEDULES

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

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

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

§ 3.11 DOCUMENTS AND SAMPLES AT THE SITE

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

§ 3.12 SHOP DRAWINGS, PRODUCT DATA AND SAMPLES

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

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

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

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

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

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

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

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

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

§ 3.12.10 The Contractor shall not be required to provide professional services that constitute the practice of architecture or engineering unless such services are specifically required by the Contract Documents for a portion of the Work or unless the Contractor needs to provide such services in order to carry out the Contractor's responsibilities for construction means, methods, techniques, sequences and procedures. The Contractor shall not be

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

§ 3.13 USE OF SITE

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

§ 3.14 CUTTING AND PATCHING

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

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

§ 3.15 CLEANING UP

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

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

§ 3.16 ACCESS TO WORK

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

§ 3.17 ROYALTIES, PATENTS AND COPYRIGHTS

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

§ 3.18 INDEMNIFICATION

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

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

ARTICLE 4 ARCHITECT

§ 4.1 GENERAL

§ 4.1.1 The Owner shall retain an architect lawfully licensed to practice architecture or an entity lawfully practicing architecture in the jurisdiction where the Project is located. That person or entity is identified as the Architect in the Agreement and is referred to throughout the Contract Documents as if singular in number. The term "Architect" means the Architect, or the Engineer when the nature of the work is within the authority granted engineers by the State licensure law, or an authorized representative of the Architect or Engineer.

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

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

§ 4.2 ADMINISTRATION OF THE CONTRACT

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

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

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

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§ 4.2.4 COMMUNICATIONS FACILITATING CONTRACT ADMINISTRATION

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

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

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

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

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

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

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

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

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

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

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

ARTICLE 5 SUBCONTRACTORS

§ 5.1 DEFINITIONS

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

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

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

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

§ 5.2.2 The Contractor shall not contract with a proposed person or entity to whom the Owner or Architect has made reasonable and timely objection. The Contractor shall not be required to contract with anyone to whom the Contractor has made reasonable objection. The Contractor shall not contract with any party who is suspended or debarred by any Federal government agency from participating in Federally assisted construction projects or to whom the Owner or the Architect has made reasonable and timely objection.

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

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

§ 5.3 SUBCONTRACTUAL RELATIONS

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

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Subcontractor, identify to the Subcontractor terms and conditions of the proposed subcontract agreement that may be at variance with the Contract Documents. Subcontractors will similarly make copies of applicable portions of such documents available to their respective proposed Sub-subcontractors.

§ 5.4 CONTINGENT ASSIGNMENT OF SUBCONTRACTS

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

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

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

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

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

ARTICLE 6 CONSTRUCTION BY OWNER OR BY SEPARATE CONTRACTORS

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

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

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

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

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

§ 6.2 MUTUAL RESPONSIBILITY

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

§ 6.2.2 If part of the Contractor's Work depends for proper execution or results upon construction or operations by the Owner or a separate contractor, the Contractor shall, prior to proceeding with that portion of the Work, promptly report to the Architect apparent discrepancies or defects in such other construction that would render it unsuitable for such proper execution and results. Failure of the Contractor so to report shall constitute an acknowledgment that

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the Owner's or separate contractor's completed or partially completed construction is fit and proper to receive the Contractor's Work, except as to defects not then reasonably discoverable.

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

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

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

§ 6.3 OWNER'S RIGHT TO CLEAN UP

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

ARTICLE 7 CHANGES IN THE WORK

§ 7.1 GENERAL

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

§ 7.1.2 A Change Order shall be based upon agreement among the Owner, Agency, Contractor and Architect; an order for a minor change in the Work may be issued by the Architect alone.

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

§ 7.2 CHANGE ORDERS

§ 7.2.1 A Change Order is a written instrument

(Paragraphs deleted)

order to the Contractor utilizing Form RD 1924-7, "Contract Change Order," or AIA G-701 signed by the Owner, Architect, Contractor, and the Agency representative. It is issued after the execution of the Contract, authorizing a change in the Work or an adjustment in the Contract Sum or the Contract Time. The Contract Sum and the Contract Time may be changed only by Change Order. The Contractor's signing of a Change Order indicates complete agreement therein.

§ 7.2.2 Methods used in determining adjustments to the Contract Sum may include any of the following:

- .1 Mutual acceptance of a lump sum properly itemized and supported by sufficient substantiating data to permit evaluating.
- .2 Unit prices stated in the Contract Documents or subsequently agreed upon.

§ 7.3 CONSTRUCTION CHANGE DIRECTIVES

§ 7.3.1 A Construction Change Directive is a written order prepared by the Architect and signed by the Owner and Architect, directing a change in the Work prior to agreement on adjustment, if any, in the Contract Sum or Contract Time, or both. The Owner may by Construction Change Directive, without invalidating the Contract, order changes in the Work within the general scope of the Contract consisting of additions, deletions or other revisions, the Contract Sum and Contract Time being adjusted accordingly. A Construction Change Directive may be used only for a change in response to an emergency as described in paragraph 10.4.

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

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

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

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

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

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

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

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

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

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

§ 7.3.10 When the Owner and Contractor agree with a determination made by the Architect concerning the adjustments in the Contract Sum and Contract Time, or otherwise reach agreement upon the adjustments, such

agreement shall be effective immediately and the Architect will prepare a Change Order. Change Orders may be issued for all or any part of a Construction Change Directive.

§ 7.4 MINOR CHANGES IN THE WORK

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

ARTICLE 8 TIME

§ 8.1 DEFINITIONS

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

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

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

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

§ 8.2 PROGRESS AND COMPLETION

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

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

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

§ 8.2.4 The Notice to Proceed shall be issued within twenty (20) calendar days of the execution of the Agreement by the Owner. Should there be reasons why the Notice to Proceed cannot be issued within such period, the time may be extended by mutual agreement of the Owner and Contractor, with the concurrence of the Agency. If the Notice to Proceed has not been issued within the twenty (20) calendar day period or within the period mutually agreed, the Contractor may terminate the Agreement without further liability on the part of either party.

§ 8.3 DELAYS AND EXTENSIONS OF TIME

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

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

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

§ 8.3.4 As outlined in Article 3 of the Agreement, the Contractor agrees to pay liquidated damages to the Owner for each calendar day the Contractor shall be in default.

ARTICLE 9 PAYMENTS AND COMPLETION

§ 9.1 CONTRACT SUM

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

§ 9.2 SCHEDULE OF VALUES

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

§ 9.3 APPLICATIONS FOR PAYMENT

§ 9.3.1 At least ten days before the date established for each progress payment, the Contractor shall submit to the Architect an itemized Application for Payment prepared in accordance with the schedule of values, if required under Section 9.2, for completed portions of the Work. Such application shall be notarized, if required, and supported by such data substantiating the Contractor's right to payment as the Owner or Architect may require, such as copies of requisitions from Subcontractors and material suppliers, and shall reflect retainage if provided for in the Contract Documents.

§ 9.3.1.1 Work performed and materials supplied under a Change Order may be included for payment only after the Change Order has been approved by all appropriate parties, including the Agency.

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

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

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

§ 9.4 CERTIFICATES FOR PAYMENT

§ 9.4.1 The Architect will, within seven days after receipt of the Contractor's Application for Payment, either issue to the Owner a Certificate for Payment, using AIA Document 701, Application and Certificate for Payment or Form RD 1924-18, Partial Payment Estimate. with a copy to the Contractor, for such amount as the Architect determines is properly due, or notify the Contractor and Owner in writing of the Architect's reasons for withholding certification in whole or in part as provided in Section 9.5.1.

§ 9.4.2 The issuance of a Certificate for Payment will constitute a representation by the Architect to the Owner, based on the Architect's evaluation of the Work and the data comprising the Application for Payment, that, to the best of the Architect's knowledge, information and belief, the Work has progressed to the point indicated and that the quality of the Work is in accordance with the Contract Documents. The foregoing representations are subject to an evaluation of the Work for conformance with the Contract Documents upon Substantial Completion, to results of subsequent tests and inspections, to correction of minor deviations from the Contract Documents prior to completion and to specific qualifications expressed by the Architect. The issuance of a Certificate for Payment will further constitute a representation that the Contractor is entitled to payment in the amount certified. However, the issuance

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of a Certificate for Payment will not be a representation that the Architect has (1) made exhaustive or continuous on-site inspections to check the quality or quantity of the Work, (2) reviewed construction means, methods, techniques, sequences or procedures, (3) reviewed copies of requisitions received from Subcontractors and material suppliers and other data requested by the Owner to substantiate the Contractor's right to payment, or (4) made examination to ascertain how or for what purpose the Contractor has used money previously paid on account of the Contract Sum.

§ 9.5 DECISIONS TO WITHHOLD CERTIFICATION

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

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

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

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

§ 9.6 PROGRESS PAYMENTS

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

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

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

§ 9.6.4 The Owner has the right to request written evidence from the Contractor that the Contractor has properly paid Subcontractors and material and equipment suppliers amounts paid by the Owner to the Contractor for subcontracted Work. If the Contractor fails to furnish such evidence within seven days, the Owner shall have the right to contact Subcontractors to ascertain whether they have been properly paid. Neither the Owner nor Architect

shall have an obligation to pay or to see to the payment of money to a Subcontractor, except as may otherwise be required by law.

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

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

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

§ 9.6.8 No progress payments will be made that deplete the retainage, nor place in escrow any funds that are required for retainage, nor invest the retainage for the benefit of the Contractor. Retainage will not be adjusted until after construction is substantially complete.

§ 9.7 FAILURE OF PAYMENT

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

§ 9.8 SUBSTANTIAL COMPLETION

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

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

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

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

§ 9.8.5 The Certificate of Substantial Completion shall be submitted to the Owner and Contractor for their written acceptance of responsibilities assigned to them in such Certificate. When the Work has been substantially completed, except for Work which cannot be completed because of weather conditions, lack of materials or other reasons, which, in the judgment of the Owner, are valid reasons for non-completion, the Owner may make additional payments, retaining at all times an amount sufficient to cover the estimate cost of the Work still to be completed. Provide a copy of the Certificate to the Agency.

§ 9.9 PARTIAL OCCUPANCY OR USE

§ 9.9.1 The Contractor agrees to the use and occupancy of a portion or unit of the Project before formal acceptance by the Owner under the following conditions:

- .1 A "Certificate of Substantial Completion" shall be prepared and executed as provided in subparagraph 9.8.4, except that when, in the opinion of the Architect, the Contractor is chargeable with unwarranted delay in completing the Work or other Contract requirements, the signature of the Contractor will not be required. The Certificate of Substantial Completion shall be accompanied by a written endorsement of the Contractor's insurance carrier and surety permitting occupancy by the Owner during the remaining period of the Project Work. Occupancy and use by the Owner shall not commence until authorized by public authorities having jurisdiction over the Work.
- .2 Occupancy by the Owner shall not be construed by the Contractor as being an acceptance of that part of the Project to be occupied.
- .3 The Contractor shall not be held responsible for any damage to the occupied part of the Project resulting from the Owner's occupancy.
- .4 Occupancy by the Owner shall not be deemed to constitute a waiver of existing claims in behalf of the Owner or the Contract against each other.
- .5 If the Project consists of more than one building, and one of the buildings is to be occupied, the Owner, prior to occupancy of that building, shall secure permanent property insurance on the building to be occupied and necessary permits which may be required for use and occupancy.

§ 9.9.2 With the exception of clause 9.9.1.5, use and occupancy by the Owner prior to Project acceptance does not relieve the Contractor of responsibility to maintain all insurance and bonds required of the Contractor under the Contract Documents until the Project is completed and accepted by the Owner.

(Paragraph deleted)

§ 9.10 FINAL COMPLETION AND FINAL PAYMENT

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

§ 9.10.2 Neither final payment nor any remaining retained percentage shall become due until the Contractor submits to the Architect (1) an affidavit that payrolls, bills for materials and equipment, and other indebtedness connected with the Work for which the Owner or the Owner's property might be responsible or encumbered (less amounts withheld by Owner) have been paid or otherwise satisfied, (2) a certificate evidencing that insurance required by the Contract Documents to remain in force after final payment is currently in effect and will not be canceled or allowed to expire until at least 30 days' prior written notice has been given to the Owner, (3) a written statement that the Contractor knows of no substantial reason that the insurance will not be renewable to cover the period required by the Contract Documents, (4) consent of surety, if any, to final payment and (5), if required by the Owner, other data establishing payment or satisfaction of obligations, such as receipts, releases and waivers of liens, claims, security

interests or encumbrances arising out of the Contract, to the extent and in such form as may be designated by the Owner.

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

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

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

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

ARTICLE 10 PROTECTION OF PERSONS AND PROPERTY

§ 10.1 SAFETY PRECAUTIONS AND PROGRAMS

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

§ 10.2 SAFETY OF PERSONS AND PROPERTY

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

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

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

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

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

§ 10.2.5 The Contractor shall promptly remedy damage and loss (other than damage or loss insured under property insurance required by the Contract Documents) to property referred to in Sections 10.2.1.2 and 10.2.1.3 caused in whole or in part by the Contractor, a Subcontractor, a Sub-subcontractor, or anyone directly or indirectly employed by any of them, or by anyone for whose acts they may be liable and for which the Contractor is responsible under Sections 10.2.1.2 and 10.2.1.3, except damage or loss attributable to acts or omissions of the Owner or Architect or anyone directly or indirectly employed by either of them, or by anyone for whose acts either of them may be liable,

and not attributable to the fault or negligence of the Contractor. The foregoing obligations of the Contractor are in addition to the Contractor's obligations under Section 3.18.

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

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

§ 10.2.8 INJURY OR DAMAGE TO PERSON OR PROPERTY

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

§ 10.3 HAZARDOUS MATERIALS

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

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

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

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

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

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

§ 10.4 EMERGENCIES

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

ARTICLE 11 INSURANCE AND BONDS

§ 11.1 CONTRACTOR'S LIABILITY INSURANCE

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

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

§ 11.1.2 The insurance required by Section 11.1.1 shall be written for not less than limits of liability specified in the subparagraph 11.1.5 or required by law, whichever coverage is greater. Coverages, whether written on an occurrence or claims-made basis, shall be maintained without interruption from the date of commencement of the Work until the date of final payment and termination of any coverage required to be maintained after final payment, and, with respect to the Contractor's completed operations coverage, until the expiration of the period for correction of Work or for such other period for maintenance of completed operations coverage as specified in the Contract Documents.

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

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

§ 11.1.5 Insurance shall be:

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- .1 Written with a limit of liability of not less than \$500,000 for all damages arising out of bodily injury, including death, at any time resulting therefrom, sustained by any one person in any one accident; and a limit of liability of not less than \$500,000 aggregate for any such damages sustained by two or more persons in any one accident. Insurance shall be written with a limit of liability of not less than \$200,000 for all property damage sustained by any one person in any one accident; and a limit of liability of not less than \$200,000 aggregate for any such damage sustained by two or more persons in any one accident, or
- .2 Written with a combined bodily injury and damage liability of not less than \$700,000 per occurrence;; and with an aggregate of not less than \$700,000 per occurrence.

§ 11.2 OWNER'S LIABILITY INSURANCE

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

§ 11.3 PROPERTY INSURANCE

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

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

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

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

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

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

§ 11.3.2 BOILER AND MACHINERY INSURANCE

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

§ 11.3.3 LOSS OF USE INSURANCE

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

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

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

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

(Paragraphs deleted)

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

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

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

§ 11.4 PERFORMANCE BOND AND PAYMENT BOND

§ 11.4.1 The Contractor shall furnish the Owner bonds covering faithful performance of the Contract and payment of obligations arising thereunder within ten (10) calendar days after receipt of the Notice of Award. The surety company executing the bonds must hold a certificate of authority as an acceptable surety on Federal bonds as listed

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in Treasury Circular 570, and be authorized to transact business in the State where the Project is located. The bonds (using the forms included in the Budding Documents) shall each be equal to the amount of the Contract Sum. The cost of these bonds shall be included in the Contract Sum.

- .1 The Contractor shall require the attorney-in-fact who executes the required bonds on behalf of the surety to affix thereto a certified and current power of attorney.
- .2 If at any time a surety on any such bond is declared bankrupt or loses its right to do business in the State in which the work is to be performed or is removed from the list of surety companies accepted on Federal Bonds, the Contractor shall within ten (10) calendar days after notice from the Owner to do so, substitute an acceptable bond in such form and sum and signed by such other surety or sureties as may be satisfactory to the Owner. The premiums of such bond shall be paid by any Contractor. No further payment shall be deemed due nor shall be made until the new surety or sureties shall have furnished an acceptable bond to the Owner.

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

ARTICLE 12 UNCOVERING AND CORRECTION OF WORK

§ 12.1 UNCOVERING OF WORK

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

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

§ 12.2 CORRECTION OF WORK

§ 12.2.1 BEFORE OR AFTER SUBSTANTIAL COMPLETION

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

§ 12.2.2 AFTER SUBSTANTIAL COMPLETION

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

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

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

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

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

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

§ 12.3 ACCEPTANCE OF NONCONFORMING WORK

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

ARTICLE 13 MISCELLANEOUS PROVISIONS

§ 13.1 GOVERNING LAW

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

§ 13.2 SUCCESSORS AND ASSIGNS

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

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

§ 13.3 WRITTEN NOTICE

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

§ 13.4 RIGHTS AND REMEDIES

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

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

§ 13.5 TESTS AND INSPECTIONS

§ 13.5.1 Tests, inspections and approvals of portions of the Work shall be made as required by the Contract Documents and by applicable laws, statutes, ordinances, codes, rules and regulations or lawful orders of public

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

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

§ 13.5.3 If such procedures for testing, inspection or approval under Sections 13.5.1 and 13.5.2 reveal failure of the portions of the Work to comply with requirements established by the Contract Documents, all costs made necessary by such failure including those of repeated procedures and compensation for the Architect's services and expenses shall be at the Contractor's expense.

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

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

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

§ 13.6 INTEREST

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

§ 13.7 TIME LIMITS ON CLAIMS

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

§ 13.8 LANDS AND RIGHTS-OF-WAY

§ 13.8.1 Prior to the start of construction, the Owner shall obtain all lands and rights-of-way necessary for the execution and completion of work to be performed under this contract.

§ 13.9 EQUAL OPPORTUNITY REQUIREMENTS

§ 13.9.1 Non-discrimination in Employment by Federally Assisted Construction Contractors, by Executive Order 11246. This section summarized Executive Order 11246, which prohibits employment discrimination and required employers holding non-exempt Federal contracts and subcontracts and federally-assisted construction contracts and subcontracts in excess of \$10,000 to take affirmative action to ensure equal employment opportunity without regard to race, color, religion, sex, or national origin. The Executive Order requires, as a condition for the approval of any federally assisted construction contract, that the applicant incorporate nondiscrimination and affirmative action clauses into its non-exempt federally assisted construction contracts.

§ 13.9.2 Executive Order 11246, is administered and enforced by the Office of Federal Contract Compliance Programs (OFCCP), an agency in the U.S. Department of Labor's Employment Standards Administration. OFCCP has issued regulations at 41 CFR chapter 60 implementing the Executive Order. The regulations at 41 CFR part

60-4 establish the procedures which the Agency, as an administering agency, must follow when making grants, contracts, loans, insurance or guarantees involving federally assisted construction which is not exempt from the requirements of Executive Order 11246. The regulations which apply to Federal or federally assisted construction contractors also are published at 41 CFR part 60-4.

§ 13.9.3 OFCCP has established numerical goals for minority and female utilization in construction work. The goals are expressed in percentage terms for the contractor's aggregate workforce in each trace. OFCCP has set goals for minority utilization based on the percentage of minorities in the civilian labor force in the relevant area. There is a single nationwide goal of 6.9 percent for utilization of women. The goals apply to all construction work in the covered geographic area, whether or not it is federal, federally assisted or non-federal. A notice advises bidders of the applicable goals for the area where the project is to be located.

§ 13.9.4 **Application.** This section applies to all of a construction contractor's or subcontractor's employees who are engaged in on-site construction including those construction employees who work on a non-Federal or non-Federally assisted construction site.

§ 13.9.4.1 Agency officials will notify the appropriate Regional Director of OFCCP that an Agency financed construction contract has been awarded, and that the equal opportunity clauses are included in the contract documents.

§ 13.9.4.2 The Regional Director, OFCCP-DOL, will enforce the non-discrimination requirements of Executive Order 11246.

§ 13.9.5 The prospective contractor or subcontractor must comply with the Immigration Reform and Control Act of 1986, by completing and retaining Form I-9, "Employment Eligibility Verification," for employees hired. This form is available from the Immigration and Naturalization Service, and Department of Justice.

§ 13.9.6 The prospective contractor or subcontractor must submit Form RD 400-6, "Compliance Statement," to the applicant and an Agency official as part of the bid package, prior to any contract bid negotiations and comply with the Executive Order 11246 as stated in the contract documents.

§ 13.10 STATUTES

§ 13.10.1 The Contractor and each Subcontractor shall comply with the following statutes (and with regulations issued pursuant thereto, which are incorporated herein by reference):

§ 13.10.1.1 Copeland Anti-Kickback Act (18 U.S.C. 874) as supplemented in Department of Labor regulations (29 CFR part 3). This Act provides that each Contractor shall be prohibited from inducing, by any means, any person in connection with construction to give up any part of the compensation to which the person is otherwise entitled.

§ 13.10.1.2 Clean Air Act (42 U.S.C. 7414), section 114, and Water Pollution Control Act (33 U.S.C. 1813), section 308. Under Executive Order 11738 and Environmental Protection Agency (EPA) regulations 40 C.F.R. part 15, all Contracts in excess of \$100,000 are required to comply with these Acts. The Acts require the Contractor to:

- .1 Notify the Owner of the receipt of any communication from EPA indicating that a facility to be utilized in the performance of the Contract is under consideration to be listed on the EPA list of Violating Facilities.
- .2 Certify that any facility to be utilized in the performance of any nonexempt Contractor or Subcontractor is not listed on the EPA list of Violating Facilities as of the date of the Contract Award.
- .3 Include or cause to be included the above criteria and requirements of paragraphs .1 and .2 in every nonexempt subcontract, and that the Contractor will take such action as the Government may direct as a means of enforcing such provisions.

§ 13.10.1.3 Restrictions on Lobbying (Public Law 101-121, section 319) as supplemented in Department of Agriculture regulations (7CFR part 3018). This statute applies to the recipients of contracts or subcontracts that exceed \$100,000 at any tier under a Federal loan that exceed \$150,000 or a Federal grants that exceed \$100,000. If applicable, the Contractor must complete a certification form on lobbying activities related to the specific Federal loan or grant that is a funding source for this contract. The certification and disclosure forms shall be provided by the Owner.

§ 13.11 RECORDS

§ 13.11.1 If the Contract is based on a negotiated Bid, the Owner, the Agency, the Comptroller General of the United States, or any of their duly authorized representatives, shall have access to any books, documents, papers,

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and records of the Contractor which are pertinent to a specific Federal loan program for the purpose of making audit, examination, excerpts, and transcriptions. The Contractor shall maintain records for at least three years after the Owner makes final payment and all other pending matters are closed.

§ 13.12 ENVIRONMENTAL REQUIREMENTS

§ 13.12.1 Mitigation Measures – The contractor shall comply with applicable mitigation measures established in the environmental assessment for the project. These may be obtained from the Agency representative.

§ 13.12.2 Mitigation Measures – The Contractor, when constructing a Project involving trenching, excavating, or other earth moving activity, shall comply with the following environmental constraints:

§ 13.12.2.1 Endangered Species, Historic Preservation, Human Remains and Cultural Items, Hazardous Materials, and Paleontology – Any excavation or other earth moving activity by the Contractor that provides evidence of the presence of endangered or threatened species or their critical habitat, uncovers a historical or archaeological artifact, human remains or cultural items, hazardous materials, a fossil or other paleontological materials will require the Contractor to:

- .1 Temporarily stop work;
- .2 Provide immediate notice to the Architect and the Agency, and in the case of potentially hazardous materials, provide immediate notice to local first responders and take such measures as necessary to protect the public and workers;
- .3 Take reasonable measures as necessary to protect the discovered materials or protected resource;
- .4 Abide by such direction as provided by the Agency, or Agencies responsible for resource protection or hazardous materials management; and
- .5 Resume work only upon notice from the Architect and the Agency.

§ 13.12.3 Lead-Based Paint – The Contractor and Owner shall comply with applicable Agency requirements of the Lead-Based Paint Poisoning Prevention Act, as amended (42 U.S.C. 4821) , and the Residential Lead-Based Paint Hazard Reduction Act of 1992 (42 U.S.C. 4851) for rehabilitation work on residential property built prior to 1978.

§ 13.13 DEBARMENT AND SUSPENSION

§ 13.13.1 Mitigation Measures – The Contractor shall comply with the requirements of 7 CFR part 3017, which pertains to the debarment or suspension of a person from participating in a Federal program or activity.

ARTICLE 14 TERMINATION OR SUSPENSION OF THE CONTRACT

§ 14.1 TERMINATION BY THE CONTRACTOR

§ 14.1.1 The Contractor may terminate the Contract if the Work is stopped for a period of 30 consecutive days through no act or fault of the Contractor or a Subcontractor, Sub-subcontractor or their agents or employees or any other persons or entities performing portions of the Work under direct or indirect contract with the Contractor, for any of the following reasons:

- .1 Issuance of an order of a court or other public authority having jurisdiction that requires all Work to be stopped;
- .2 An act of government, such as a declaration of national emergency that requires all Work to be stopped;
- .3 Because the Architect has not issued a Certificate for Payment and has not notified the Contractor of the reason for withholding certification as provided in Section 9.4.1, or because the Owner has not made payment on a Certificate for Payment within the time stated in the Contract Documents; or
- .4 The Owner has failed to furnish to the Contractor promptly, upon the Contractor's request, reasonable evidence as required by Section 2.2.1.

§ 14.1.2 The Contractor may terminate the Contract if, through no act or fault of the Contractor or a Subcontractor, Sub-subcontractor or their agents or employees or any other persons or entities performing portions of the Work under direct or indirect contract with the Contractor, repeated suspensions, delays or interruptions of the entire Work by the Owner as described in Section 14.3 constitute in the aggregate more than 100 percent of the total number of days scheduled for completion, or 120 days in any 365-day period, whichever is less.

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

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

§ 14.2 TERMINATION BY THE OWNER FOR CAUSE

§ 14.2.1 The Owner may terminate the Contract if the Contractor

- .1 repeatedly refuses or fails to supply enough properly skilled workers or proper materials;
- .2 fails to make payment to Subcontractors for materials or labor in accordance with the respective agreements between the Contractor and the Subcontractors;
- .3 repeatedly disregards applicable laws, statutes, ordinances, codes, rules and regulations, or lawful orders of a public authority; or
- .4 otherwise is guilty of substantial breach of a provision of the Contract Documents.

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

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

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

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

§ 14.3 SUSPENSION BY THE OWNER FOR CONVENIENCE

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

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

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

§ 14.4 TERMINATION BY THE OWNER FOR CONVENIENCE

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

§ 14.4.2 Upon receipt of written notice from the Owner of such termination for the Owner's convenience, the Contractor shall

- .1 cease operations as directed by the Owner in the notice;
- .2 take actions necessary, or that the Owner may direct, for the protection and preservation of the Work; and

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

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

ARTICLE 15 CLAIMS AND DISPUTES

§ 15.1 CLAIMS

§ 15.1.1 DEFINITION

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

§ 15.1.2 NOTICE OF CLAIMS

Claims by either the Owner or Contractor must be initiated by written notice to the other party and to the Initial Decision Maker with a copy sent to the Architect, if the Architect is not serving as the Initial Decision Maker. Claims by either party must be initiated within 21 days after occurrence of the event giving rise to such Claim or within 21 days after the claimant first recognizes the condition giving rise to the Claim, whichever is later.

§ 15.1.3 CONTINUING CONTRACT PERFORMANCE

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

§ 15.1.4 CLAIMS FOR ADDITIONAL COST

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

§ 15.1.5 CLAIMS FOR ADDITIONAL TIME

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

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

§ 15.1.6 CLAIMS FOR CONSEQUENTIAL DAMAGES

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

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

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

§ 15.2 INITIAL DECISION

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

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

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

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

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

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

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

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

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

§ 15.3 MEDIATION

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

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

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

§ 15.4 ARBITRATION

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

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

§ 15.4.1.2 The arbitrators will select a hearing location as close to the Owner's locale as possible.

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

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

§ 15.4.4 CONSOLIDATION OR JOINDER

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

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

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

Additions and Deletions Report for

AIA® Document A201™ – 2007

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

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Sample Draft

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§ 1.2.4 Concurrence of the Contract by the Agency is required before it is effective.

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§ 2.2.5 Unless otherwise provided in the Contract Documents, the Owner shall furnish to the Contractor one copy of the Contract Documents for purposes of making reproductions pursuant to Section 1.5.2. The Contractor will be furnished, free of charge, _____ copies of the Drawings and Projects Manuals necessary for execution of the Work. Additional copies will be available from the Architect at the cost of reproduction and handling.

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§ 4.1.1 The Owner shall retain an architect lawfully licensed to practice architecture or an entity lawfully practicing architecture in the jurisdiction where the Project is located. That person or entity is identified as the Architect in the Agreement and is referred to throughout the Contract Documents as if singular in number. The term "Architect" means the Architect, or the Engineer when the nature of the work is within the authority granted engineers by the State licensure law, or an authorized representative of the Architect or Engineer.

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§ 5.2.2 The Contractor shall not contract with a proposed person or entity to whom the Owner or Architect has made reasonable and timely objection. The Contractor shall not be required to contract with anyone to whom the Contractor has made reasonable objection. The Contractor shall not contract with any party who is suspended or debarred by any Federal government agency from participating in Federally assisted construction projects or to whom the Owner or the Architect has made reasonable and timely objection.

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

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

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

...

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

- ~~.1 The change in the Work;~~
- ~~.2 The amount of the adjustment, if any, in the Contract Sum; and order to the Contractor utilizing Form RD 1924-7, "Contract Change Order," or AIA G-701 signed by the Owner, Architect, Contractor, and the Agency representative. It is issued after the execution of the Contract, authorizing a change in the Work or an adjustment in the Contract Sum or the Contract Time. The Contract Sum and the Contract Time may be changed only by Change Order. The Contractor's signing of a Change Order indicates complete agreement therein.~~
- ~~.3 The extent of the adjustment, if any, in the Contract Time.~~

§ 7.2.2 Methods used in determining adjustments to the Contract Sum may include any of the following:

- .1 Mutual acceptance of a lump sum properly itemized and supported by sufficient substantiating data to permit evaluating.
- .2 Unit prices stated in the Contract Documents or subsequently agreed upon.

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§ 7.3.1 A Construction Change Directive is a written order prepared by the Architect and signed by the Owner and Architect, directing a change in the Work prior to agreement on adjustment, if any, in the Contract Sum or Contract Time, or both. The Owner may by Construction Change Directive, without invalidating the Contract, order changes in the Work within the general scope of the Contract consisting of additions, deletions or other revisions, the Contract Sum and Contract Time being adjusted accordingly. A Construction Change Directive may be used only for a change in response to an emergency as described in paragraph 10.4.

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§ 8.2.4 The Notice to Proceed shall be issued within twenty (20) calendar days of the execution of the Agreement by the Owner. Should there be reasons why the Notice to Proceed cannot be issued within such period, the time may be extended by mutual agreement of the Owner and Contractor, with the concurrence of the Agency. If the Notice to Proceed has not been issued within the twenty (20) calendar day period or within the period mutually agreed, the Contractor may terminate the Agreement without further liability on the part of either party.

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§ 8.3.4 As outlined in Article 3 of the Agreement, the Contractor agrees to pay liquidated damages to the Owner for each calendar day the Contractor shall be in default.

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§ 9.3.1.1 ~~As provided in Section 7.3.9, such applications may include requests for payment on account of changes in the Work that have been properly authorized by Construction Change Directives, or by interim determinations of the Architect, but not yet included in Change Orders. Work performed and materials supplied under a Change Order may be included for payment only after the Change Order has been approved by all appropriate parties, including the Agency.~~

...

§ 9.4.1 The Architect will, within seven days after receipt of the Contractor's Application for Payment, either issue to the Owner a Certificate for Payment, using AIA Document 701, Application and Certificate for Payment or Form RD 1924-18, Partial Payment Estimate. with a copy to the Contractor, for such amount as the Architect determines is properly due, or notify the Contractor and Owner in writing of the Architect's reasons for withholding certification in whole or in part as provided in Section 9.5.1.

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§ 9.6.8 No progress payments will be made that deplete the retainage, nor place in escrow any funds that are required for retainage, nor invest the retainage for the benefit of the Contractor. Retainage will not be adjusted until after construction is substantially complete.

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

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§ 9.8.5 The Certificate of Substantial Completion shall be submitted to the Owner and Contractor for their written acceptance of responsibilities assigned to them in such Certificate. ~~Upon such acceptance and consent of surety, if any, the Owner shall make payment of retainage applying to such Work or designated portion thereof. Such payment shall be adjusted for Work that is incomplete or not in accordance with the requirements of the Contract Documents.~~ When the Work has been substantially completed, except for Work which cannot be completed because of weather conditions, lack of materials or other reasons, which, in the judgment of the Owner, are valid reasons for non-completion, the Owner may make additional payments, retaining at all times an amount sufficient to cover the estimate cost of the Work still to be completed. Provide a copy of the Certificate to the Agency.

...

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

- .1 A "Certificate of Substantial Completion" shall be prepared and executed as provided in subparagraph 9.8.4, except that when, in the opinion of the Architect, the Contractor is chargeable with unwarranted delay in completing the Work or other Contract requirements, the signature of the Contractor will not be required. The Certificate of Substantial Completion shall be accompanied by a written endorsement of the Contractor's insurance carrier and surety permitting occupancy by the Owner during the remaining period of the Project Work. Occupancy and use by the Owner shall not commence until authorized by public authorities having jurisdiction over the Work.
- .2 Occupancy by the Owner shall not be construed by the Contractor as being an acceptance of that part of the Project to be occupied.

- .3 The Contractor shall not be held responsible for any damage to the occupied part of the Project resulting from the Owner's occupancy.
- .4 Occupancy by the Owner shall not be deemed to constitute a waiver of existing claims in behalf of the Owner or the Contract against each other.
- .5 If the Project consists of more than one building, and one of the buildings is to be occupied, the Owner, prior to occupancy of that building, shall secure permanent property insurance on the building to be occupied and necessary permits which may be required for use and occupancy.

~~§ 9.9.2 Immediately prior to such partial occupancy or use, the Owner, Contractor and Architect shall jointly inspect the area to be occupied or portion of the Work to be used in order to determine and record the condition of the Work. With the exception of clause 9.9.1.5, use and occupancy by the Owner prior to Project acceptance does not relieve the Contractor of responsibility to maintain all insurance and bonds required of the Contractor under the Contract Documents until the Project is completed and accepted by the Owner.~~

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

...

~~§ 9.10.2 Neither final payment nor any remaining retained percentage shall become due until the Contractor submits to the Architect (1) an affidavit that payrolls, bills for materials and equipment, and other indebtedness connected with the Work for which the Owner or the Owner's property might be responsible or encumbered (less amounts withheld by Owner) have been paid or otherwise satisfied, (2) a certificate evidencing that insurance required by the Contract Documents to remain in force after final payment is currently in effect and will not be canceled or allowed to expire until at least 30 days' prior written notice has been given to the Owner, (3) a written statement that the Contractor knows of no substantial reason that the insurance will not be renewable to cover the period required by the Contract Documents, (4) consent of surety, if any, to final payment and (5), if required by the Owner, other data establishing payment or satisfaction of obligations, such as receipts, releases and waivers of liens, claims, security interests or encumbrances arising out of the Contract, to the extent and in such form as may be designated by the Owner. If a Subcontractor refuses to furnish a release or waiver required by the Owner, the Contractor may furnish a bond satisfactory to the Owner to indemnify the Owner against such lien. If such lien remains unsatisfied after payments are made, the Contractor shall refund to the Owner all money that the Owner may be compelled to pay in discharging such lien, including all costs and reasonable attorneys' fees.~~

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~~§ 11.1.2 The insurance required by Section 11.1.1 shall be written for not less than limits of liability specified in the Contract Documents-subparagraph 11.1.5 or required by law, whichever coverage is greater. Coverages, whether written on an occurrence or claims-made basis, shall be maintained without interruption from the date of commencement of the Work until the date of final payment and termination of any coverage required to be maintained after final payment, and, with respect to the Contractor's completed operations coverage, until the expiration of the period for correction of Work or for such other period for maintenance of completed operations coverage as specified in the Contract Documents.~~

...

~~§ 11.1.5 Insurance shall be:~~

- .1 ~~Written with a limit of liability of not less than \$500,000 for all damages arising out of bodily injury, including death, at any time resulting therefrom, sustained by any one person in any one accident; and a limit of liability of not less than \$500,000 aggregate for any such damages sustained by two or more persons in any one accident. Insurance shall be written with a limit of liability of not less than \$200,000 for all property damage sustained by any one person in any one accident; and a limit of~~

liability of not less than \$200,000 aggregate for any such damage sustained by two or more persons in any one accident, or

- .2 Written with a combined bodily injury and damage liability of not less than \$700,000 per occurrence;; and with an aggregate of not less than \$700,000 per occurrence.

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

...

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

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

§ 11.3.7 WAIVERS OF SUBROGATION

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

...

§ 11.4.1 The Owner shall have the right to require the Contractor to furnish Contractor shall furnish the Owner bonds covering faithful performance of the Contract and payment of obligations arising thereunder as stipulated in bidding requirements or specifically required in the Contract Documents on the date of execution of the Contract within ten (10) calendar days after receipt of the Notice of Award. The surety company executing the bonds must hold a certificate of authority as an acceptable surety on Federal bonds as listed in Treasury Circular 570, and be authorized to transact business in the State where the Project is located. The bonds (using the forms included in the Budding Documents) shall each be equal to the amount of the Contract Sum. The cost of these bonds shall be included in the Contract Sum.

.1 The Contractor shall require the attorney-in-fact who executes the required bonds on behalf of the surety to affix thereto a certified and current power of attorney.

.2 If at any time a surety on any such bond is declared bankrupt or loses its right to do business in the State in which the work is to be performed or is removed from the list of surety companies accepted on Federal Bonds, the Contractor shall within ten (10) calendar days after notice from the Owner to do so, substitute an acceptable bond in such form and sum and signed by such other surety or sureties as may be satisfactory to the Owner. The premiums of such bond shall be paid by any Contractor. No further payment shall be deemed due nor shall be made until the new surety or sureties shall have furnished an acceptable bond to the Owner.

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§ 13.8 LANDS AND RIGHTS-OF-WAY

§ 13.8.1 Prior to the start of construction, the Owner shall obtain all lands and rights -of-way necessary for the execution and completion of work to be performed under this contract.

§ 13.9 EQUAL OPPORTUNITY REQUIREMENTS

§ 13.9.1 Non-discrimination in Employment by Federally Assisted Construction Contractors, by Executive Order 11246. This section summarized Executive Order 11246, which prohibits employment discrimination and required employers holding non-exempt Federal contracts and subcontracts and federally-assisted construction contracts and subcontracts in excess of \$10,000 to take affirmative action to ensure equal employment opportunity without regard to race, color, religion, sex, or national origin. The Executive Order requires, as a condition for the approval of any federally assisted construction contract, that the applicant incorporate nondiscrimination and affirmative action clauses into its non-exempt federally assisted construction contracts.

§ 13.9.2 Executive Order 11246, is administered and enforced by the Office of Federal Contract Compliance Programs (OFCCP), an agency in the U.S. Department of Labor's Employment Standards Administration. OFCCP has issued regulations at 41 CFR chapter 60 implementing the Executive Order. The regulations at 41 CFR part 60-4 establish the procedures which the Agency, as an administering agency, must follow when making grants, contracts, loans, insurance or guarantees involving federally assisted construction which is not exempt from the requirements of Executive Order 11246. The regulations which apply to Federal or federally assisted construction contractors also are published at 41 CFR part 60-4.

§ 13.9.3 OFCCP has established numerical goals for minority and female utilization in construction work. The goals are expressed in percentage terms for the contractor's aggregate workforce in each trace. OFCCP has set goals for minority utilization based on the percentage of minorities in the civilian labor force in the relevant area. There is a single nationwide goal of 6.9 percent for utilization of women. The goals apply to all construction work in the covered geographic area, whether or not it is federal, federally assisted or non-federal. A notice advises bidders of the applicable goals for the area where the project is to be located.

§ 13.9.4 Application. This section applies to all of a construction contractor's or subcontractor's employees who are engaged in on-site construction including those construction employees who work on a non-Federal or non-Federally assisted construction site.

§ 13.9.4.1 Agency officials will notify the appropriate Regional Director of OFCCP that an Agency financed construction contract has been awarded, and that the equal opportunity clauses are included in the contract documents.

§ 13.9.4.2 The Regional Director, OFCCP-DOL, will enforce the non-discrimination requirements of Executive Order 11246.

§ 13.9.5 The prospective contractor or subcontractor must comply with the Immigration Reform and Control Act of 1986, by completing and retaining Form I-9, "Employment Eligibility Verification," for employees hired. This form is available from the Immigration and Naturalization Service, and Department of Justice.

§ 13.9.6 The prospective contractor or subcontractor must submit Form RD 400-6, "Compliance Statement," to the applicant and an Agency official as part of the bid package, prior to any contract bid negotiations and comply with the Executive Order 11246 as stated in the contract documents.

§ 13.10 STATUTES

§ 13.10.1 The Contractor and each Subcontractor shall comply with the following statutes (and with regulations issued pursuant thereto, which are incorporated herein by reference):

§ 13.10.1.1 Copeland Anti-Kickback Act (18 U.S.C. 874) as supplemented in Department of Labor regulations (29 CFR part 3). This Act provides that each Contractor shall be prohibited from inducing, by any means, any person in connection with construction to give up any part of the compensation to which the person is otherwise entitled.

§ 13.10.1.2 Clean Air Act (42 U.S.C. 7414), section 114, and Water Pollution Control Act (33 U.S.C. 1813), section 308. Under Executive Order 11738 and Environmental Protection Agency (EPA) regulations 40 C.F.R. part 15, all Contracts in excess of \$100,000 are required to comply with these Acts. The Acts require the Contractor to:

- .1 Notify the Owner of the receipt of any communication from EPA indicating that a facility to be utilized in the performance of the Contract is under consideration to be listed on the EPA list of Violating Facilities.
- .2 Certify that any facility to be utilized in the performance of any nonexempt Contractor or Subcontractor is not listed on the EPA list of Violating Facilities as of the date of the Contract Award.
- .3 Include or cause to be included the above criteria and requirements of paragraphs .1 and .2 in every nonexempt subcontract, and that the Contractor will take such action as the Government may direct as a means of enforcing such provisions.

§ 13.10.1.3 Restrictions on Lobbying (Public Law 101-121, section 319) as supplemented in Department of Agriculture regulations (7CFR part 3018). This statute applies to the recipients of contracts or subcontracts that exceed \$100,000 at any tier under a Federal loan that exceed \$150,000 or a Federal grants that exceed \$100,000. If applicable, the Contractor must complete a certification form on lobbying activities related to the specific Federal loan or grant that is a funding source for this contract. The certification and disclosure forms shall be provided by the Owner.

§ 13.11 RECORDS

§ 13.11.1 If the Contract is based on a negotiated Bid, the Owner, the Agency, the Comptroller General of the United States, or any of their duly authorized representatives, shall have access to any books, documents, papers, and records of the Contractor which are pertinent to a specific Federal loan program for the purpose of making audit, examination, excerpts, and transcriptions. The Contractor shall maintain records for at least three years after the Owner makes final payment and all other pending matters are closed.

§ 13.12 ENVIRONMENTAL REQUIREMENTS

§ 13.12.1 Mitigation Measures – The contractor shall comply with applicable mitigation measures established in the environmental assessment for the project. These may be obtained from the Agency representative.

§ 13.12.2 Mitigation Measures – The Contractor, when constructing a Project involving trenching, excavating, or other earth moving activity, shall comply with the following environmental constraints:

§ 13.12.2.1 Endangered Species, Historic Preservation, Human Remains and Cultural Items, Hazardous Materials, and Paleontology – Any excavation or other earth moving activity by the Contractor that provides evidence of the presence of endangered or threatened species or their critical habitat, uncovers a historical or archaeological artifact, human remains or cultural items, hazardous materials, a fossil or other paleontological materials will require the Contractor to:

- .1 Temporarily stop work;

- .2 Provide immediate notice to the Architect and the Agency, and in the case of potentially hazardous materials, provide immediate notice to local first responders and take such measures as necessary to protect the public and workers;
- .3 Take reasonable measures as necessary to protect the discovered materials or protected resource;
- .4 Abide by such direction as provided by the Agency, or Agencies responsible for resource protection or hazardous materials management; and
- .5 Resume work only upon notice from the Architect and the Agency.

§ 13.12.3 Lead-Based Paint – The Contractor and Owner shall comply with applicable Agency requirements of the Lead-Based Paint Poisoning Prevention Act, as amended (42 U.S.C. 4821) , and the Residential Lead-Based Paint Hazard Reduction Act of 1992 (42 U.S.C. 4851) for rehabilitation work on residential property built prior to 1978.

§ 13.13 DEBARMENT AND SUSPENSION

§ 13.13.1 Mitigation Measures – The Contractor shall comply with the requirements of 7 CFR part 3017, which pertains to the debarment or suspension of a person from participating in a Federal program or activity.

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

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

...

§ 15.4.1.2 The arbitrators will select a hearing location as close to the Owner's locale as possible.

(Guide 19 - Attachment 4)

BID BOND

KNOW ALL MEN BY THESE PRESENTS, that we, the undersigned, _____
 _____ as Principal, and
 _____ as Surety, are hereby held and
 firmly bound unto _____ as OWNER in the penal sum of
 _____ for the payment of
 which, well and truly to be made, we hereby jointly and severally bind
 ourselves, successors and assigns.

Signed, this _____ day of _____, 19____.
 The Condition of the above obligation is such that whereas the Principal has
 submitted to _____ a certain BID,
 attached hereto and hereby made a part hereof to enter into a contract in
 writing, for the

NOW, THEREFORE,

- (a) If said BID shall be rejected, or
- (b) If said BID shall be accepted and the Principal shall execute and deliver a contract in the Form of Contract attachment hereto (Properly completed in accordance with said BID) and shall furnish a BOND for faithful performance of said contract, and for the payment of all persons performing labor furnishing materials in connection therewith, and shall in all other respects perform the agreement created by the acceptance of said BID, then this obligation shall be void, otherwise the same shall remain in force and effect; it being expressly understood and agreed that the liability of the Surety for any and all claims hereunder shall, in no event, exceed the penal amount of this obligation as herein stated.

(1-15-79) SPECIAL PN

The Surety, for value received, hereby stipulates and agrees that the obligations of said Surety and its BOND shall be in no way impaired or affected by any extension of the time within which the OWNER may accept such BID; and said Surety does hereby waive notice of any such extension.

IN WITNESS WHEREOF, the Principal and the Surety have hereunto set their hands and seals, and such of them as are corporations have caused their corporate seals to be hereto affixed and these presents to be signed by their proper officers, the day and year first set forth above.

Principal (L.S.)

Surety

By: _____

IMPORTANT - Surety companies executing BONDS must appear on the Treasury Department's most current list (Circular 570 as amended) and be authorized to transact business in the state where the project is located.

(Guide 19 - Attachment 5)

PERFORMANCE BOND

KNOW ALL PERSONS BY THESE PRESENTS: that

(Name of Contractor)

(Address of Contractor)

a _____, hereinafter called Principal,
and
(Corporation, Partnership, or Individual)

(Name of Surety)

(Address of Surety)

hereinafter called Surety, are held and firmly bound unto _____

(Name of Owner)

(Address of Owner)

hereinafter called OWNER, and the United States of America acting through Rural Development hereinafter referred to as the Government in the total aggregate penal sum of _____

_____ Dollars (\$_____)

in lawful money of the United States, for the payment of which sum well and truly to be made, we bind ourselves, our heirs, executors, administrators, successors, and assigns, jointly and severally, firmly by these presents.

THE CONDITION OF THIS OBLIGATION is such that whereas, the Principal entered into a certain contract with the OWNER, dated the _____ day of _____ 19____, a copy of which is hereto attached and made a part hereof for the construction of:

NOW, THEREFORE, if the Principal shall well, truly and faithfully perform its duties, all the undertakings, covenants, terms, conditions, and agreements of said contract during the original term thereof, and any extensions thereof which may be granted by the OWNER, or GOVERNMENT, with or without notice to the SURETY and during the one year guaranty period and if the PRINCIPAL shall satisfy all claims and demands incurred under such contract, and shall fully indemnify and save harmless the OWNER and GOVERNMENT from all costs and damages which it may suffer by reason of failure to do so, and shall reimburse and repay the OWNER and GOVERNMENT all outlay and expense which the OWNER and GOVERNMENT may incur in making good any default, then this obligation shall be void, otherwise to remain in full force and effect.

PROVIDED, FURTHER, that the liability of the PRINCIPAL AND SURETY hereunder to the GOVERNMENT shall be subject to the same limitations and defenses as may be available to them against a claim hereunder by the OWNER, provided, however, that the GOVERNMENT may, at its option, perform any obligations of the OWNER required by the contract.

PROVIDED, FURTHER, that the said SURETY, for value received hereby stipulates and agrees that no change, extension of time, alteration or addition to the terms of the contract or to WORK to be performed thereunder or the SPECIFICATIONS accompanying same shall in any way affect its obligation on this BOND, and it does hereby waive notice of any such change, extension of time, alteration or addition to the terms of the contract or to the WORK or to the SPECIFICATIONS.

PROVIDED, FURTHER, that it is expressly agreed that the BOND shall be deemed amended automatically and immediately, without formal and separate amendments hereto, upon amendment to the Contract not increasing the contract price more than 20 percent, so as to bind the PRINCIPAL and the SURETY to the full and faithful performance of the CONTRACT as so amended. The term "Amendment", wherever used in this BOND, and whether referring to this BOND, the Contract or the Loan Documents shall include any alteration, addition, extension, or modification of any character whatsoever.

PROVIDED, FURTHER, that no final settlement between the OWNER or GOVERNMENT and the PRINCIPAL shall abridge the right of the other beneficiary hereunder, whose claim may be unsatisfied. The OWNER and GOVERNMENT are the only beneficiaries hereunder.

(Guide 19 Attachment 5) (Page 3)

IN WITNESS WHEREOF, this instrument is executed in _____ counterparts, each
Number
one of which shall be deemed an original, this the _____ day of _____
_____ .

ATTEST:

Principal

(Principal) Secretary

(SEAL)

By _____ (s)

(Witness as to Principal)

(Address)

(Address)

Surety

ATTEST:

Witness to Surety

BY _____
Attorney-in-Fact

(Address)

(Address)

NOTE: Date of BOND must not be prior to date of Contract.

If CONTRACTOR is partnership, all partners should execute BOND.
IMPORTANT: Surety companies executing BONDS must appear on the Treasury
Department's most current list (Circular 570 as amended) and be authorized to
transact business in the state where the Project is located.

oOo

(Guide 19 - Attachment 6)

PAYMENT BOND

KNOW ALL PERSONS BY THESE PRESENTS: that

(Name of Contractor)

(Address of Contractor)

a _____ hereinafter called PRINCIPAL and
(Corporation, Partnership or Individual)

(Name of Surety)
hereinafter called SURETY, are held and firmly bound unto _____

(Name of Owner)

(Address of Owner)

hereinafter called OWNER and the United States of America acting through Rural Development hereinafter referred to as GOVERNMENT, and unto all persons, firms, and corporations who or which may furnish labor, or who furnish materials to perform as described under the contract and to their successors and assigns in the total aggregate penal sum of _____ Dollars (\$ _____)

in lawful money of the United States, for the payment of which sum well and truly to be made, we bind ourselves, our heirs, executors, administrators, successors, and assigns, jointly and severally, firmly by these presents.

THE CONDITION OF THIS OBLIGATION is such that whereas, the PRINCIPAL entered into a certain contract with the OWNER, dated the _____ day of _____ 19____, a copy of which is hereto attached and made a part hereof for the construction of:

NOW, THEREFORE, if the PRINCIPAL shall promptly make payment to all persons, firms, and corporations furnishing materials for or performing labor in the prosecution of the WORK provided for in such contract, and any authorized extensions or modification thereof, including all amounts due for materials, lubricants, oil, gasoline, coal and coke, repairs on machinery, equipment and tools, consumed or used in connection with the construction of such WORK, and for all labor cost incurred in such WORK including that by a SUBCONTRACTOR, and to any mechanic or materialman lienholder whether it acquires its lien by operation of State or Federal law; then this obligation shall be void, otherwise to remain in full force and effect.

PROVIDED, that beneficiaries or claimants hereunder shall be limited to the SUBCONTRACTORS, and persons, firms, and corporations having a direct contract with the PRINCIPAL or its SUBCONTRACTORS.

PROVIDED, FURTHER, that the said SURETY for value received hereby stipulates and agrees that no change, extension of time, alteration or addition to the terms of the contract or to the WORK to be performed thereunder or the SPECIFICATIONS accompanying the same shall in any way affect its obligation on this BOND, and it does hereby waive notice of any such change, extension of time, alteration or addition to the terms of this contract or to the WORK or to the SPECIFICATIONS.

PROVIDE, FURTHER, that no suit or action shall be commenced hereunder by any claimant: (a) Unless claimant, other than one having a direct contract with the PRINCIPAL (or with the GOVERNMENT in the event the GOVERNMENT is performing the obligations of the OWNER), shall have given written notice to any two of the following: The PRINCIPAL, the OWNER, or the SURETY above named within ninety (90) days after such claimant did or performed the last of the work or labor, or furnished the last of the materials for which said claim is made, stating with substantial accuracy the amount claimed and the name of the party to whom the materials were furnished, or for whom the work or labor was done or performed. Such notice shall be served by mailing the same by registered mail or certified mail, postage prepaid, in an envelope addressed to the PRINCIPAL, OWNER, or SURETY, at any place where an office is regularly maintained for the transaction of business, or served in any manner in which legal process may be served in the state in which the aforesaid project is located, save that such service need not be made by a public officer. (b) After the expiration of one (1) year following the date of which PRINCIPAL ceased work on said CONTRACT, is being understood, however, that if any limitation embodied in the BOND is prohibited by any law controlling the construction hereof, such limitation shall be deemed to be amended so as to be equal to the minimum period of limitation permitted by such law.

PROVIDED, FURTHER, that it is expressly agreed that this BOND shall be deemed amended automatically and immediately, without formal and separate amendments hereto, upon amendment to the Contract not increasing the contract price more than 20 percent, so as to bind the PRINCIPAL and the SURETY to the full and faithful performance of the Contract as so amended. The term "Amendment", wherever used in this BOND and whether referring to this BOND, the contract or the loan Documents shall include any alteration, addition, extension or modification of any character whatsoever.

PROVIDED, FURTHER, that no final settlement between the OWNER or GOVERNMENT and the CONTRACTOR shall abridge the right of any beneficiary hereunder, whose claim may be unsatisfied.

(Guide 19 - Attachment 6) (Page 3)

WITNESS WHEREOF, this instrument is executed in ____ counterparts, each of
which shall be deemed an original, this the ____ day of _____
Number

ATTEST:

(Principal) Secretary

(SEAL)

Principal

By _____ (s)

(Address)

Witness as to Principal

(Address)

Surety

ATTEST:

Witness as to Surety

(Address)

By _____
Attorney-in-Fact

(Address)

NOTE: Date of BOND must not be prior to date of Contract.

If CONTRACTOR Is partnership, all partners should execute BOND.

IMPORTANT: Surety companies executing BONDS must appear on the Treasury Department's most current list (Circular 570 as amended) and be authorized to transact business in the State where the Project is located.

oOo

RD Instruction 1942-A
(Guide 19 - Attachment 7)

NOTICE OF AWARD

TO: _____

PROJECT Description: _____

The OWNER has considered the BID submitted by you for the above described WORK in response to its Advertisement for Bids dated _____, 19____, and Information for Bidders.

You are hereby notified that your BID has been accepted for items in the amount of \$ _____.

You are required by the Information for Bidders to execute the Agreement and furnish the required CONTRACTOR'S Performance BOND, Payment BOND and certificates of insurance within ten (10) calendar days from the date of this Notice to you.

If you fail to execute said Agreement and to furnish said BONDS within ten (10) days from the date of this Notice, said OWNER will be entitled to consider all your rights arising out of the OWNER's acceptance of your BID as abandoned and as a forfeiture of your BID BOND. The OWNER will be entitled to such other rights as may be granted by law.

You are required to return an acknowledged copy of this NOTICE OF AWARD to the OWNER.

Dated this _____ day of _____, 19____.

Owner

By _____

Title _____

ACCEPTANCE OF NOTICE

Receipt of the above NOTICE OF AWARD is hereby acknowledged

by _____
this the _____ day of _____, 19____.
By _____
Title _____

NOTICE TO PROCEED

TO: _____ DATE: _____
 _____ Project: _____

You are hereby notified to commence WORK in accordance with the Agreement dated _____, 19__, on or before _____, 19__, and you are to complete the WORK within _____ consecutive calendar days thereafter. The date of completion of all WORK is therefore _____, 19__.

 Owner

By _____

Title _____

ACCEPTANCE OF NOTICE

Receipt of the above NOTICE TO PROCEED is hereby acknowledged by _____

 this the _____, 19__

By _____

Title _____

Employer Identification
 Number _____

oOo

14. Certificate of Owner's Attorney.

I, the undersigned, _____, the duly authorized and acting legal representative of _____, do hereby certify as follows

I have examined the attached contract(s) and performance and payment bond(s) and the manner of execution thereof, and I am of the opinion that each of the aforesaid agreements are adequate and have has been duly executed by the proper parties thereto acting through their duly authorized representatives; that said representatives have full power and authority to execute said agreements on behalf of the respective parties named thereon; and that the foregoing agreements constitute valid and legally binding obligations upon the parties executing the same in accordance with terms, conditions, and provisions thereof.

Date: _____

NOTE: Delete phrase "performance and payment bonds" when not applicable.

15. Rural Development Concurrence.

As lender or insurer of funds to defray the costs of this contract, and without liability for any payments thereunder, Rural Development (Rural Development) hereby concurs in the award of this CONTRACT to

U.S. Department of Agriculture
Rural Development

By _____

Title _____

Date _____

This CONTRACT shall not be effective unless and until concurred in by the State Director of Rural Development, U.S. Department of Agriculture or a delegated representative.

NOTICE TO BIDDERS

The following CERTIFICATIONS are to be completed and submitted with your Bid and Bid Bond:

ATTACHMENT 1E	Certification Regarding Equal Employment
ATTACHMENT 1F	Section 3 Certification
ATTACHMENT 1G	Section 3 Business Certification
ATTACHMENT 1H	Project Workforce Breakdown
ATTACHMENT Z	Disclosure Report
USDA Form R400-6	Compliance Statement/Non Segregated Facilities
USDA Form AD-1048	Debarment Certification
RD 1940-Q	Certification for Contracts

QUESTIONS ABOUT THE CERTIFICATIONS CAN BE SUBMITTED TO:

Mitzi Hargan or Carrie McIntosh, White River Planning and Development, Phone: 870-793-5233

Attachment 1E
Sample Bid Package for ACEDP Funded Projects
Certification of Bidder Regarding Equal Employment Opportunity

This certification is required pursuant to Executive Order 11246 (30 FR 12319-25) which provides that any bidder or prospective contractor or any of their proposed subcontractors, shall state as an initial part of the bid whether it has participated in any previous contract or subcontract subject to the equal opportunity clause; and if so, whether it has filed all compliance reports due under applicable instructions. Where the certification indicates that the bidder has not filed a compliance report due under applicable instructions, such bidder shall be required to submit a compliance report within seven (7) calendar days after bid opening. **No contract shall be awarded unless such report is submitted.**

Certification by Bidder
Name and Address of Bidder (Including Zip Code)

<i>Name and Title of Bidder's Agent</i>

1. Has the bidder participated in a previous contract or subcontract subject to the Equal Opportunity Clause?
Yes No

2. Were compliance reports required to be filed in connection with such contract or subcontract?
Yes No

3. Has the bidder filed all compliance reports due under applicable instructions?
Yes No N/A

4. Has the bidder ever been or is being considered for sanction due to violation of Executive Order 11246, as amended?
Yes No

<i>Signature and Title of Bidder's Agent</i>	<i>Date</i>
--	-------------

Attachment 1F
Sample Bid Package for ACEDP Funded Projects
Contractor Section 3 Certification

_____ (*Name of contractor*) agrees to implement the following specific affirmative steps directed at increasing the utilization of lower income residents and businesses within the City or County of _____.

- | | |
|----|---|
| A. | To implement Section 3 requirements by seeking the assistance of local officials in determining the exact boundaries of the applicable project area |
| B. | To attempt to recruit from within the City/County the necessary number of lower income residents through: local advertising media, signs placed at the proposed site for the project, and community organizations and public or private institutions operating within or serving the project area |
| C. | To maintain a list of all lower income residents who have applied either on their own or on referral from any source, and to employ such persons, if otherwise eligible and if a vacancy exists |
| D. | To insert this Section 3 plan in all bid documents, and to require all bidders to submit a Section 3 affirmative action plan (when contracts exceed \$10,000) including utilization goals and the specific steps planned to accomplish these goals |
| E. | To formally contact unions, subcontractors, and trade associations to secure their cooperation for this project |
| F. | To ensure that all appropriate project area business concerns are notified of pending subcontractual opportunities |
| G. | To maintain records, including copies of correspondence, memoranda, etc., which document that all of the above affirmative action steps have been taken |
| H. | To appoint or recruit an executive official of the company or agency as Equal Opportunity Officer to coordinate the implementation of this Section 3 plan |
| I. | To list on the Estimated Project Workforce Breakdown form, all projected workforce needs for this project by job classification |

As officers and representatives of _____

(Name of contractor)

We, the undersigned, have read and fully agree to the above and become a party to the full implementation of this program.

Title

Date

Signature

Attachment 1G
Sample Bid Package for ACEDP Funded Projects
Section 3 Business Status Certification

All contract and subcontracts awarded on Section 3 covered projects must be reported in aggregate on the Section 3 Summary Report. For all businesses reported as being Section 3 businesses, documentation of their status must be retained in the project files. The Arkansas Economic Development Commission (AEDC) considers this form adequate documentation of Section 3 status.

Recipients funded with ACEDP CDBG funding, and any contractors or subcontractors with which they contract for more than \$100,000, are required to report on all contracts they make both with Section 3 business concerns and with businesses that are not Section 3 business concerns.

Documentation of the status of Section 3 Businesses should be retained in the project files and attached to all contracts over \$100,000.

Business being certified

Company: _____

Address: _____

Project information

Project Name: _____

Project Address: _____

Section 3 Determination

• Is your business owned (51% or more) by individuals whose household incomes are NO GREATER THAN 80% of Area Median Income (AMI)? Use the "low" income listed on the following chart http://www.huduser.org/portal/datasets/il/il13/IncomeLimits_Section8.pdf

Yes No

• Do 30% (or more) of your full time, permanent employees have household incomes that are NO GREATER THAN 80% of Area Median Income (AMI), or within three years of the date of first employment with the business concern were Section 3 residents? Use the "low" income listed on the following chart http://www.huduser.org/portal/datasets/il/il13/IncomeLimits_Section8.pdf Yes No

No

• Will you subcontract more than 25% of this contract with a qualified business that is either 51% owned by Section 3 residents or 30% or more of its employees are Section 3 residents?

Yes No

The information below is optional for bidders. It will be required from the successful contractor and subcontractors.

Racial/Ethnic Code of Owner:

Caucasian African American Native American Hispanic Asian/Pacific Hasidic Jew
Woman Owned Business? Yes No

Section 1001, Title 18 of the US Code of Federal Regulations makes it a crime to make willful false statements or misrepresentations to any department or agency of the United States on any matter within its jurisdiction.

If any of the questions above are marked "yes", the business qualifies as a Section 3 business.
I certify that the above statements are true, complete, and correct to the best of my knowledge and belief.

Signature: _____

Print Name: _____ **Date:** _____

Attachment 1H
Sample Bid Package for ACEDP Funded Projects
Estimated Project Workforce Breakdown

Job Category	Total Estimated Positions	No. of Positions Currently Occupied by Permanent Employees	No. of Vacant Positions	No. of Positions to be Filled With LIPAR (Note 1)*
Officers/Supervisors				
Professionals				
Technicians				
Office				
Clerical				
Trade				
Journeyman				
Apprentices				
Trainees				
Others				
Total				

* Note 1: Lower Income Project Area Residents. Individuals residing within the City/County of _____ whose family income does not exceed 80 percent of the median income in the area.

Company

Attachment II
Sample Bid Package for ACEDP Funded Projects
SECTION 3 CERTIFICATION NEW HIRE RESIDENTS

Grantee Name: _____

ELIGIBILITY FOR PREFERENCE

Eligibility for Preference

A section 3 resident seeking the preference in training and employment provided by this part shall certify, or submit evidence to the recipient contractor or subcontractor, if requested, that the person is a Section 3 resident, as defined in Section 135.5. (An example of evidence of eligibility for the preference is evidence of receipt of public assistance, or evidence of participation in a public assistance program.)

Certification for Resident Seeking Section 3 Preference in Training and Employment

I, _____, am a legal resident of the _____

_____ low- or very-low-income _____ city guidelines for a

My permanent address is _____ **DO NOT SUBMIT ATTACHMENT II WITH BID REQUIRED AFTER AWARD.** _____

I have attached the following documentation as evidence of my status:

- | | |
|---|---|
| <input type="checkbox"/> Copy of lease | <input type="checkbox"/> Copy of receipt of public assistance |
| <input type="checkbox"/> Copy of Evidence of participation in a public assistance program | <input type="checkbox"/> Other evidence |

Signature

Print Name

Date

Attachment Z
Sample Bid Package for ACEDP Funded Projects
DISCLOSURE REQUIRED BY EXECUTIVE ORDER 98-04

Contracts and Grants

Any contract or amendment to a contract or any grant executed by an agency which exceeds \$25,000 shall require the contractor to disclose information as required under the terms of Executive Order 98-04 and the Regulations pursuant thereto.

Any individual contracting with the State of Arkansas shall disclose if he or she is a current or former: member of the general assembly, constitutional officer, board or commission member, state employee, or the spouse or immediate family of any of the persons as described herein.

Any entity contracting with the State of Arkansas shall disclose

- (a) any position of control, or
- (b) any ownership interest of 10% or greater

that is held by a current or former: member of the general assembly, constitutional officer, board or commission member, state employee, or the spouse or immediate family of any of the persons as described herein.

Disclosure by Sub-contractor or Assignee

Any sub-contractor or assignee (hereinafter "Third Party") shall disclose whether such Third Party is a current or former: member of the general assembly, constitutional officer, board or commission member, state employee, or the spouse or immediate family member of any of the persons as described herein, or if any of the persons here described in this sentence hold any position of control or ownership interest of 10% or greater in the Third Party. This disclosure requirement shall apply during the entire term of the contract or grant, without regard to whether the subcontract or assignment is entered into prior or subsequent to the date of contract or grant.

Failure to Disclose and Violations

The failure of any person or entity to disclose as required under any term of Executive Order 98-04, or the violation of any rule, regulation or policy promulgated by the Department of Finance and Administration pursuant to this Order, shall be considered a material breach of the terms of the contract or grant and shall subject the party failing to disclose or in violation to all legal remedies available to the state agency under the provision of existing law.

Please check all that apply if you are a current or former:

_____ Member of the General Assembly of the State of Arkansas

_____ Constitutional Officer of the State of Arkansas

_____ Member of a Board or Commission of the State of Arkansas

_____ State Employee

_____ Spouse of a current or former member of the general assembly, constitutional officer, board or commission member, or state employee.

_____ I am a current or former: member of the general assembly, constitutional officer, board or commission member, state employee, or spouse or immediate member of these persons as described, and I hold a position of control in the contracting entity or grantee of this application.

_____ I am a current or former: member of the general assembly, constitutional officer, board or commission member, state employee, or spouse or immediate member of these persons as described, and I hold a 10% or higher interest in the contracting entity or grantee of this application.

I hereby acknowledge that failure to disclose the information as required by Executive Order 98-04 shall constitute a material breach of any future agreement, resulting from this application, with the State of Arkansas or any state agency acting on its behalf.

I also acknowledge that any individual drawing a salary or performing personal services for an agency must disclose any direct or indirect benefit he or she may receive as a result of any State contract with an entity in which he or she has a financial interest. I understand that failure to report this information may subject me to criminal sanctions, as provided in Ark. Code Ann. §19-11-702.

Name

Date

COMPLIANCE STATEMENT

This statement relates to a proposed contract with _____

(Name of borrower or grantee)

who expects to finance the contract with assistance from either the Rural Housing Service (RHS), Rural Business-Cooperative Service (RBS), or the Rural Utilities Service (RUS) or their successor agencies, United States Department of Agriculture (whether by a loan, grant, loan insurance, guarantee, or other form of financial assistance). I am the undersigned bidder or prospective contractor, I represent that:

1. I have, have not, participated in a previous contract or subcontract subject to Executive Order 11246 (regarding equal employment opportunity) or a preceding similar Executive Order.
2. If I have participated in such a contract or subcontract, I have, have not, filed all compliance reports that have been required to file in connection with the contract or subcontract.

If the proposed contract is for \$50,000 or more and I have 50 or more employees, I also represent that:

3. I have, have not previously had contracts subject to the written affirmative action programs requirements of the Secretary of Labor.
4. If I have participated in such a contract or subcontract, I have, have not developed and placed on file at each establishment affirmative action programs as required by the rules and regulations of the Secretary of Labor.

I understand that if I have failed to file any compliance reports that have been required of me, I am not eligible and will not be eligible to have my bid considered or to enter into the proposed contract unless and until I make an arrangement regarding such reports that is satisfactory to either the RHS, RBS or RUS, or to the office where the reports are required to be filed.

I also certify that I do not maintain or provide for my employees any segregated facilities at any of my establishments, and that I do not permit my employees to perform their services at any location, under my control, where segregated facilities are maintained. I certify further that I will not maintain or provide for my employees any segregated facilities at any of my establishments, and that I will not permit my employees to perform their services at any location, under my control, where segregated facilities are maintained. I agree that a breach of this certification is a violation of the Equal Opportunity clause in my contract. As used in this certification, the term "segregated facilities" means any waiting rooms, work areas, restrooms and wash rooms, restaurants and other eating areas time clocks, locker rooms and other storage or dressing areas, parking lots, drinking fountains, recreation or entertainment areas, transportation, and housing facilities provided for employees which are segregated by explicit directive or are in fact segregated on the basis of race, creed, color, or national origin, because of habit, local custom, or otherwise. I further agree that (except where I have obtained identical certifications for proposed subcontractors for specific time periods) I will obtain identical certifications from proposed subcontractors prior to the award of subcontracts exceeding \$10,000 which are not exempt from the provisions of the Equal Opportunity clause; that I will retain such certifications in my files; and that I will forward the following notice to such proposed subcontractors (except where the proposed subcontractors have submitted identical certifications for specific time periods): (See Reverse).

According to the Paperwork Reduction Act of 1995, an agency may not conduct or sponsor, and a person is not required to respond to a collection of information unless it displays the valid OMB control number. The valid OMB control number for this information collection is 0575-0018. The time required to complete this information collection is estimated to average 10 minutes per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information.

**NOTICE TO PROSPECTIVE SUBCONTRACTORS OF REQUIREMENTS FOR
CERTIFICATIONS OF NON-SEGREGATED FACILITIES**

A certification of Nonsegregated Facilities, as required by the May 9, 1967, order (32F.R. 7439, may 19, 1967) on Elimination of Segregated Facilities, by the Secretary of Labor, must be submitted prior to the award of a subcontract exceeding \$ 10,000 which is not exempt from the provisions of the Equal Opportunity clause. The certification may be submitted either for each subcontract or for all subcontracts during a period (i.e., quarterly, semiannually, or annually).

NOTE: The penalty for making false statements in offers is prescribed in 18 U.S.C. 1001.

Date _____

(Signature of Bidder or Prospective Contractor)

Address (including Zip Code)

U.S. DEPARTMENT OF AGRICULTURE

**Certification Regarding Debarment, Suspension, Ineligibility
and Voluntary Exclusion - Lower Tier Covered Transactions**

This certification is required by the regulations implementing Executive Order 12549, Debarment and Suspension, 7 CFR part 3017, Section 3017.510, Participants' responsibilities. The regulations were published as Part IV of the January 30, 1989, Federal Register (pages 4722-4733). Copies of the regulations may be obtained by contacting the Department of Agriculture agency with which this transaction originated.

(BEFORE COMPLETING CERTIFICATION, READ INSTRUCTIONS ON REVERSE)

- (1) The prospective lower tier participant certifies, by submission of this proposal, that neither it nor its principals is presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participation in this transaction by any Federal department or agency.
- (2) Where the prospective lower tier participant is unable to certify to any of the statements in this certification, such prospective participant shall attach an explanation to this proposal.

Organization Name

PR/Award Number or Project Name

Name(s) and Title(s) of Authorized Representative(s)

Signature(s)

Date

Instructions for Certification

1. By signing and submitting this form, the prospective lower tier participant is providing the certification set out on the reverse side in accordance with these instructions.
2. The certification in this clause is a material representation of fact upon which reliance was placed when this transaction was entered into. If it is later determined that the prospective lower tier participant knowingly rendered an erroneous certification, in addition to other remedies available to the Federal Government, the department or agency with which this transaction originated may pursue available remedies, including suspension and/or debarment.
3. The prospective lower tier participant shall provide immediate written notice to the person to which this proposal is submitted if at any time the prospective lower tier participant learns that its certification was erroneous when submitted or has become erroneous by reason of changed circumstances.
4. The terms "covered transaction," "debarred," "suspended," "ineligible," "lower tier covered transaction," "participant," "person," "primary covered transaction," "principal," "proposal," and "voluntarily excluded," as used in this clause, have the meanings set out in the Definitions and Coverage sections of rules implementing Executive Order 12549. You may contact the person to which this proposal is submitted for assistance in obtaining a copy of those regulations.
5. The prospective lower tier participant agrees by submitting this form that, should the proposed covered transaction be entered into, it shall not knowingly enter into any lower tier covered transaction with a person who is debarred, suspended, declared ineligible, or voluntarily excluded from participation in this covered transaction, unless authorized by the department or agency with which this transaction originated.
6. The prospective lower tier participant further agrees by submitting this form that it will include this clause titled "Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion - Lower Tier Covered Transaction," without modification, in all lower tier covered transaction and in all solicitations for lower tier covered transactions.
7. A participant in a covered transaction may rely upon a certification of a prospective participant in a lower tier covered transaction that is not debarred, suspended, ineligible, or voluntarily excluded from the covered transaction, unless it knows that the certification is erroneous. A participant may decide the method and frequency by which it determines the eligibility of its principals. Each participant may, but is not required to, check the Nonprocurement List.
8. Nothing contained in the foregoing shall be construed to require establishment of a system of records in order to render in good faith the certification required by this clause. The knowledge and information of a participant is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.
9. Except for transactions authorized under paragraph 5 of these instructions, if a participant in a covered transaction knowingly enters into a lower tier covered transaction with a person who is suspended, debarred, ineligible, or voluntarily excluded from participation in this transaction, in addition to other remedies available to the Federal Government, the department or agency with which this transaction originated may pursue available remedies, including suspension and/or debarment.

CERTIFICATION FOR CONTRACTS, GRANTS AND LOANS

The undersigned certifies, to the best of his or her knowledge and belief, that:

1. No Federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant or Federal loan, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant or loan.

2. If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant or loan, the undersigned shall complete and submit Standard Form - LLL, "Disclosure of Lobbying Activities," in accordance with its instructions.

3. The undersigned shall require that the language of this certification be included in the award documents for all subawards at all tiers (including contracts, subcontracts, and subgrants under grants and loans) and that all subrecipients shall certify and disclose accordingly.

This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by section 1352, title 31, U.S. Code. Any person who fails to file the required certification shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each such failure.

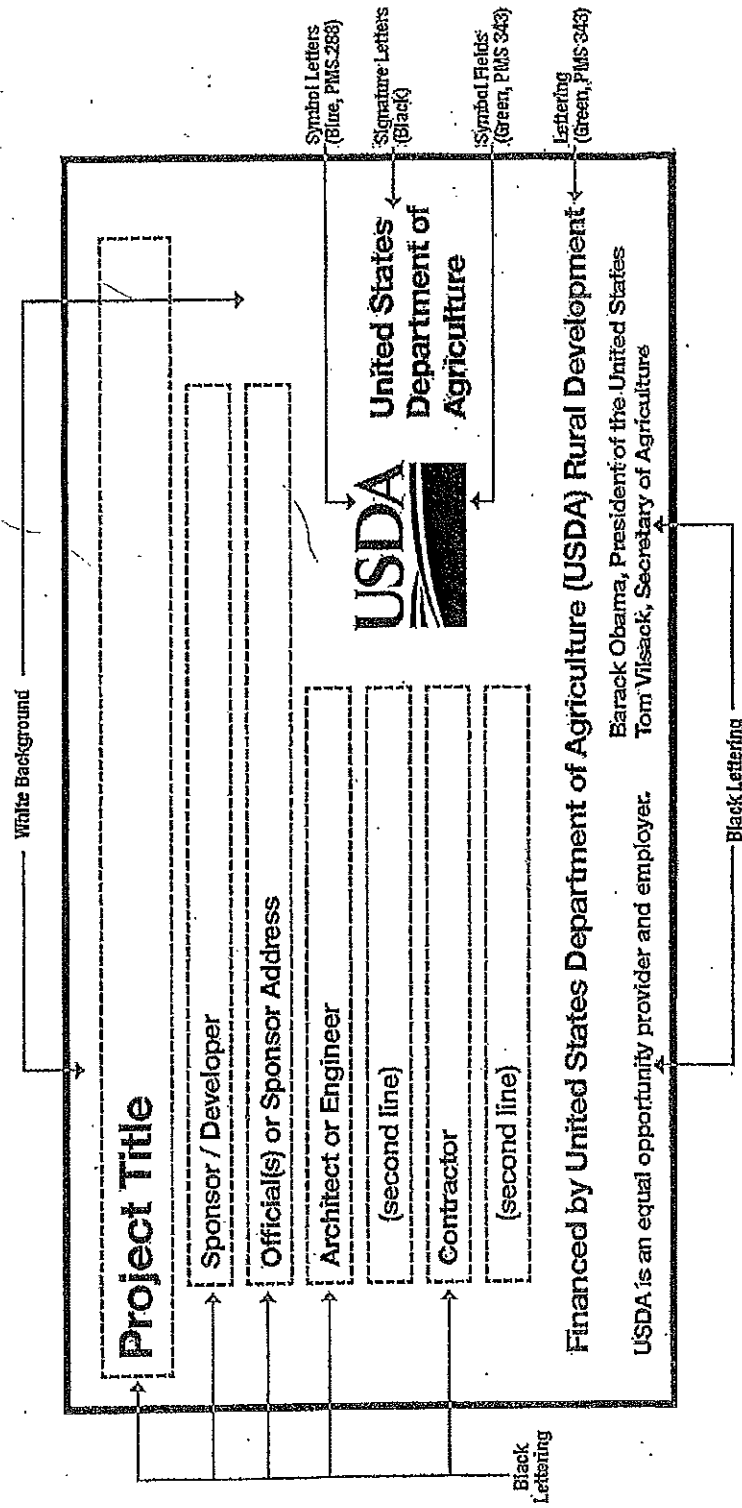
(name)

(date)

(title)

oOo

TEMPORARY CONSTRUCTION SIGN FOR RURAL DEVELOPMENT PROJECTS



SIGN DIMENSIONS: 1200 mm x 2400 mm x 19 mm (approx. 4' x 8' x 3/4")
PLYWOOD PANEL (APA RATED A-B GRADE-EXTERIOR)

SIGN CLARIFICATION: Additional information will be provided at the Pre-Construction Conference. Questions about the sign can be submitted to:

Mitzi Hargan or Carrie McIntosh, White River Planning & Development - 870.793.5233

BID PROPOSAL FORM
FIRE STATION
Griffithville
White County, Arkansas

Pursuant to and in compliance with the Bidding Documents, I/we hereby propose and agree to construct and complete the Griffithville Fire Station in strict accordance to the Contract Documents for a Stipulated Sum of : _____
\$ _____ Dollars. This Bid cannot be withdrawn for at least 60 days.

1. Construction Period: 150 Calendar Days from receipt of written Notice to Proceed for the completion of the building. Extension of contract time, if required, will be by Change Order.
2. This project, if awarded, will be put under contract within **60** days of bid date. Please list the following personnel who will be assigned to this project:

Partner/Principal in Charge: _____

Project Manager: _____

Job Superintendent: _____

3. Alternates:
 - A. Alternate No.1: Add RSX Trolley Door Operators at doors 101D & 101F.
\$ _____
 - B. Alternate No. 2: Add concrete paving and stripping at northeast corner of building where shown on site plan.
\$ _____
 - C. Alternate No. 3: Add prefinished standing seam metal roof canopy with steel frame over the window and door on the West side of the building.
\$ _____
4. Selection of the successful bidder will be based on all of the above criteria. A meeting with the successful contractor will be set within one week of bid opening. At this meeting, the contractor will be asked to furnish he following:

A rough draft of AIA Document A101-2007 Owner/Contractor Agreement Form – Stipulated Sum.

BID PROPOSAL FORM – Page 2

Contractor Company Name: _____

Contact Name: _____ Phone: _____

Address: _____

City: _____ State: _____ Zip: _____

Signature of Contractor: _____

Date: _____

ACKNOWLEDGEMENT OF RECEIPT OF ADDENDA: _____

Signed

Date

Company

Arkansas G.C. License No.

Address

SECTION 01010

SUMMARY OF WORK

PART 1 - GENERAL

- 1.1 WORK UNDER THIS CONTRACT: A new one story 4,200 SqFt pre-engineered metal building with metal wall panels and standing seam metal roof on a concrete slab on grade in the City of Griffithville, Arkansas.
- 1.2 COORDINATION:
 - A. Provide administrative and supervisory requirements necessary for coordination of work, including meetings, administrative and supervisory personnel, survey, records, reports, limitations for use of site, installation provisions, cutting and patching, cleaning, protection, and conservation.
 - B. Coordinate construction activities included under various sections of these specifications to assure efficient and orderly installation of each part of the work. Coordinate construction operations included under different sections of the specification that are dependent upon each other for proper installation, connection, and operation.
 1. Where installation of one part of the work is dependent on installation of other components, either before or after its own installation schedule construction activities in the sequence required to obtain its best results.
 2. Where availability of space is limited, coordinate installation of different components to assure maximum accessibility for required maintenance, service and repair.
 3. Make adequate provision to accommodate items scheduled for late reinstallation.
 - C. Where necessary, prepare memoranda for distribution to each party involved outlining special procedures required for coordination. Include such items as required notices, reports, and attendance at meetings.
 - D. Coordinate scheduling and timing of required administrative procedures with other constructions activities to avoid conflicts and ensure orderly progress of the work. Such administrative activities include, but are not limited to, the following:
 1. Preparation of schedules.
 2. Installation and removal of temporary facilities.
 3. Delivery and processing of submittals.
 4. Progress meetings.
 5. Project close-out activities.

- E. Coordinate construction activities to ensure that operation are carried out with consideration given to conservation of energy, water, and materials.
- 1.3 BOUNDARIES AND BENCH MARKS: Employ a professional Civil Engineer or Land Surveyor registered in the State of Arkansas, and approved by the Architect, to confirm or define site boundaries and/or building lines. Erect substantial benchmarks and preserve them throughout the work.
- 1.4 CONTRACTOR USE OF PREMISES:
- A. Confine operation at site to areas permitted under Contract limits. Portions of site beyond areas on which work is indicated are not to be disturbed.
 - B. Keep existing streets clear and open at all times.
- 1.5 INDUSTRY STANDARDS:
- A. Applicability of Standards: Except where more explicit or stringent requirements are written into the contract documents, applicable construction industry standards have the same force and effect as if bound into or copies directly into the contract documents. Such industry standards are mad a part of the contract documents by reference. Individual specification sections indicate which codes are standards the Contractor must keep available at the project site for reference.
 - B. Publication Dates: Except as otherwise indicated, where compliance with an industry standard is required, comply with standard in effect as of date of contract documents.
 - C. Conflicting Requirements: Where compliance with two or more standards is specified, and where these standards establish different or conflicting requirements for minimum quantities or quality levels, the most stringent requirement will be enforced, unless the contract documents specifically indicate otherwise. Refer requirements that are different, but apparently equal, and uncertainties as to which quality level is more stringent tot he Architect for a decision before proceeding.
 - D. Copies of Standards: The Contract Documents require that each entity performing work be experienced in that part of the work being performed. Each entity is also required to be familiar with industry standards applicable to that part of the work. Copies of applicable standards are not bound with the contract documents. Where copies of standards are needed for proper performance of the work, the Contractor is required to obtain such copies directly from the publication source.
 - E. Abbreviation and Names: Trade association names and titles of general standards are frequently abbreviated. Where acronyms or abbreviation are used in the specifications or other contract documents they are defined to mean the recognized name of the trade association, standards generating organization, governing authority, or other entity applicable to the context of the text provisions.

1.6 PROJECT MEETINGS:

- A Pre-Construction Meeting: Within 15 days after execution of agreement, the Contractor will prepare an agenda and schedule a pre-construction meeting. Written notice of meeting date, time and place, and agenda items will be sent to the Owner and Architect. The Contractor shall be responsible for notifying major subcontractors of meeting.

- B. Progress Meetings: The Contractor shall:
 - 1. Schedule and hold regular progress meetings to coordinate, expedite and schedule work of all contracts;
 - 2. Hold additional meetings as progress of work dictates or when requested by the Architect;
 - 3. Send written notice of meeting date, time and place, and agenda of meeting to the Owner, Architect/Engineer, subcontractors and others as pertinent to agenda;
 - 4. Record results of meetings and distribute copies to everyone in attendance and to others affected by the decisions or actions resulting from each meeting.

PART 2 - PRODUCTS (Not Applicable)

PART 3 - EXECUTION (Not Applicable)

END OF SECTION

SECTION 01030

ALTERNATES

PART 1 – GENERAL

1.1 DESCRIPTION OF REQUIREMENTS:

- A. Definition: An alternate is an amount proposed by Bidders and stated on Bid Form that will be added to or deducted from the Base Bid amount if Owner decides to accept a corresponding change in either scope of work or in products, materials, equipment, systems or installation methods described in Contract Documents.
- B. Coordination: Coordinate related work and modify and adjust adjacent work as required to insure that work affected by each accepted alternate is complete and fully integrated into project.
- C. Notification: Immediately following award of Contract, prepare and distribute to each party involved, notification of status of each alternate. Indicate whether alternates have been accepted, rejected or deferred for consideration at a later date. Include a complete description of negotiated modifications to alternates, if any.
- D. Schedule:
 - 1. A "Schedule of Alternates" is included at end of this section. Specification sections referenced in Schedule contain requirements for materials and methods necessary to achieve work described under each alternate.
 - 2. Include as part of each alternate, miscellaneous devices, appurtenances and similar items incidental to or required for complete installation whether or not mentioned as part of alternate.

PART 2 – PRODUCTS (NOT APPLICABLE)

PART 3 – EXECUTION

3.1 SCHEDULE OF ALTERNATES:

- A. ALTERNATE NO. 1: Add RSX Trolley Door Operators at doors 101D & 101F.
- B. ALTERNATE NO. 2: Add concrete paving and stripping where shown on site plan.
- C. ALTERNATE NO. 3: Add prefinished standing seam metal roof canopy with steel frame over the window and door on the West side of the building.

END OF SECTION

SECTION 01300

SUBMITTALS AND SUBSTITUTIONS

PART 1 – GENERAL

- 1.1 SUMMARY: Submittals, including shop drawings, product data, samples, schedules, reports, and requests for substitutions, as required by the Contract Documents instruct accordance with the provisions of this section.
- 1.2 RELATED WORK SPECIFIED IN OTHER SECTIONS:
 - A. Contractual Requirements for Submittals: 00700 General Conditions and 00800 Supplementary General Conditions.
 - B. Individual Submittals Required: Pertinent sections of these specifications.

PART 2 - PRODUCTS

- 2.1 SUBSTITUTIONS:
 - A. The naming of specified items on drawings or in specifications means that such named items are specifically desired by Owner. If the words "or approved equal or "or acceptable equal" follows such named items, substitution requests may be submitted. Use the Substitution Request Form following this section.
 - B. Complete data must be submitted on proposed substitutions. Include product and technical information with specific items and components identified, indicate differences between proposed item and specified item (materials, installation/erection/application, warranties, etc.), and samples for comparison and tests. Note: Incomplete data will not be reviewed.
 - C. The Architect is the sole judge as to equality and acceptability of proposed substitutions. ONLY WRITTEN ACCEPTANCES WILL BE HELD VALID BY THE ARCHITECT.
 - D. Unless otherwise specified in individual sections, submit proposals or substitution within 30 days after award of contract. If required to submit prior to bid, submission must be received in Architect's office 5 days prior to date established for receipt of bids. Approved substitutions will be listed in Addenda Submit substitution proposals on substitution form following this section.

- E. If substitution will affect a correlated function, adjacent construction, or work of other trades or contractors, necessary changes and modifications to affected work will be considered as part of the substitution, to be accomplished without additional cost to Owner, if and when accepted.
- F. Under no circumstances shall Architect's acceptance of such substitution relieve Contractor from timely, full and proper performance of work.

2.2 SHOP DRAWINGS:

- A. Submit required shop drawings drawn to a scale sufficiently large to show pertinent features of item and its method of connection to work.
- B. Submit related shop drawings together; partial submittals will not be accepted.
- C. Reproduction of contract documents in any form for use as shop drawings will not be permitted.
- D. Provide manufacturer's name and model number of prefabricated items and indicate methods of attachment and clearances required relative to other trades affecting all elements of work.
- E. Identify deviations from Contract Documents (if any), check dimensions, check that trades have been coordinated and that no conflict will develop in this installation.
- F. After reviewing shop drawings, indicate Contractor's approval by signing and dating on Contractor's stamp.
- G. Failure to follow these procedures will result in rejection of submission and no additional contract time will be allowed for delay from this cause.
- H. Submit one reproducible and one print of Contractor's stamped and approved shop drawings for Architect's review. The Architect will review the reproducible and stamp it with indication of action as appropriate. The Architect will retain the print for his record, and will return the reproducible to the Contractor. For reproducibles returned "Not Approved" or "Revise and Resubmit", correct the original drawings, make a new reproducible and print, and resubmit. For reproducible returned "Approved" or "Approved As Corrected", correct original drawings, make a new reproducible and provide such number of prints of the reproducible as may be needed for field distribution.

2.3 PRODUCT DATA AND SAMPLES:

- A. Submit 6 copies of product data for Architect's review for items specified in the various specification sections (copies for mechanical and electrical data is specified in Divisions 15 and 16).
- B. Submit samples, where specified, along with product data.
- C. Make all submissions affecting color selection within 30 days after signing the contract.

- D. Mark data clearly to indicate exact items submitted, and note deviations from Contract Documents (if any).
 - E. After reviewing the submittals, indicate approval by signing and dating on Contractor's stamp, and submit to the Architect for review.
- 2.4 **PROGRESS SCHEDULE:**
- A. Within 7 days after Notice to Proceed, submit to the Architect a bar—chart type progress schedule indicating a time bar for each trade or operation of work to be performed at the site. Time bar shall demonstrate planned work, properly sequenced and intermeshed, for expeditious completion of work.
 - B. Submit with bar-chart a tabulation (by date) of all submittals required either by date period relation in Contract Documents or as necessitated by lead time related to individual time bar shown on progress schedule for the associated work. At Contractor's option, submittal dates may be shown on bar—chart schedule, in lieu of being tabulated
 - C. Submit monthly updates of bar—chart accurately depicting actual progress to the first day of month. Indicate percentage of completion on time bars at 10% increments.
 - D. Submit progress schedule on reproducible stock.
 - E. Distribute progress schedule including all updates to Architect, Owner, subcontractors, suppliers, fabricators, and others with a need—to—know schedule compliance requirement. Post copy in field office.
- 2.5 **SCHEDULE OF VALUES:** Submit schedule of values on AIA Document 6703 (Continuation Sheet for G702). Itemize separate line cost for each major item of work and each subcontracted item of work (use Sections under Division 2 through 16 in Table of Contents as a basis for listing). Submit Schedule within 10 days of receipt of Notice to Proceed.
- 2.6 **APPLICATION AND CERTIFICATE FOR PAYMENT:** Submit Application and Certificate for Payment on AIA Document G702 and G703.

PART 3 - EXECUTION

- 3.1 **IDENTIFICATION OF SUBMITTALS:** Completely identify each submittal and resubmittal by showing at least the following information:
- A. Name and address of submitter, plus name and telephone number of the individual who may be contacted for further information.
 - B. Name of project as it appears on each page of these specifications.
 - C. Drawing number and specifications section number to which the submittal applies.

D. Whether this is an original submittal or resubmittal.

3.2 TIMING OF SUBMITTALS:

- A. General: Make all submittals far enough in advance of scheduled dates of installation to provide all required time for reviews, for securing necessary approvals, for possible revision and resubmittal and for placing orders and securing delivery.
- B. Delays: Costs of delays due to late submittals may be back—charged as necessary and shall not be borne by the Owner.

END OF SECTION

SUBSTITUTION REQUEST FORM

Submit To: Williams & Dean Associated Architects, Inc. Telephone: (501) 224-1900
Attn: Jesse Peterson Fax (501) 224-0873
18 Corporate Hill Drive, Suite 210
Little Rock, AR 72205

SECTION: _____
PARAGRAPH: _____
SPECIFIED ITEM: _____
PROPOSED SUBSTITUTE: _____

Attach complete description, designation, catalog or model number, Spec Data sheet, and other technical data, including laboratory tests if applicable.

Fill In Blanks Below:

1. Will substitution affect dimensions indicated on drawings?

2. Will substitution affect wiring, piping, ductwork, etc., indicated on drawings?

3. What affect will substitution have on other trades?

4. Differences between proposed substitution and specified item?

5. If necessary, will the undersigned pay for Architect's cost, required to revise working drawings, caused by substitution?

6. Manufacturer's warranties of specified items and proposed items are:
 Same Different (explain) _____

Submitted By: _____
Firm: _____
Address: _____
Signature: _____
Date: _____
Telephone: _____
Fax: _____

REVIEW COMMENTS	
<input type="checkbox"/> Accepted	
<input type="checkbox"/> Accepted As Noted (see attached copy)	
<input type="checkbox"/> Not Accepted	
<input type="checkbox"/> Received too Late	
By: _____	Date: _____
Remarks: _____	

SECTION 01400

QUALITY CONTROL SERVICES

PART 1 - GENERAL

1.1 REQUIREMENTS

- A. This Section specifies requirements for quality control services. Quality control services include inspections and tests performed by independent agencies, governing authorities, as well as the Contractor.
- B. Contractor Responsibilities: Provide inspections and tests as called for in the Project Manual or required by governing authorities, except where they are the Owner's responsibility, or are provided by another entity; services include those specified to be performed by an independent agency not by the Contractor. Costs are included in the Contract.
1. Employ and pay an independent agency, to perform quality control services.
 2. Retesting: The Contractor is responsible for retesting where results prove unsatisfactory and do not indicate compliance with Contract Documents, regardless of whether the original test was the Contractor's responsibility.
 3. Associated Services: The Contractor shall cooperate with agencies performing inspections or tests and provide auxiliary services as requested. Notify the agency in advance of operations to permit assignment of personnel. Auxiliary services include but are not limited to:
 - a. Provide access to the Work and furnish incidental labor and facilities necessary to facilitate inspections and tests.
 - b. Take representative samples of materials that require testing or assist the agency in taking samples.
 - c. Provide facilities for storage and curing of samples, and deliver samples to testing laboratories.
 - d. Provide security and protection of samples and test equipment at the Project site.
- C. Duties of the Testing Agency: The agency engaged to perform inspections, and testing of materials and construction shall cooperate with the Architect and Contractor in performance of its duties, and provide qualified personnel to perform inspections and tests.
1. The agency shall notify the Architect and Contractor promptly of deficiencies observed during performance of its services.

2. The agency is not authorized to release, revoke, alter or enlarge requirements of the Contract Documents, or approve or accept any portion of the Work.
- D. Coordination: The Contractor and each agency engaged to perform inspections and tests shall coordinate the sequence of activities to accommodate services with a minimum of delay. The Contractor and each agency shall coordinate activities to avoid removing and replacing construction to accommodate inspections and tests. The Contractor is responsible for scheduling inspections, tests, taking samples and similar activities.

1.2 SUBMITTALS

- A. The testing agency shall submit a certified written report of each inspection and test to the Architect, in duplicate, unless the Contractor is responsible for the service. If the Contractor is responsible, submit a certified written report of each inspection and test through the Contractor, in duplicate.
1. Report Data: Written reports of each inspection or test shall include, but not be limited to:
 - a. Date of issue.
 - b. Project title and number.
 - c. Name, address and telephone number of testing agency.
 - d. Dates and locations of samples and tests or inspections.
 - e. Names of individuals making the inspection or test.
 - f. Designation of the Work and test method.
 - g. Identification of product and Specification Section.
 - h. Complete inspection or test data.
 - i. Test results and an interpretations of test results.
 - j. Ambient conditions at the time of sample-taking and testing.
 - k. Comments or professional opinion as to whether inspected or tested Work complies with Contract Document requirements.
 - l. Name and signature of laboratory inspector.
 - m. Recommendations on retesting.

1.1 QUALITY CONTROL

A. Qualification for Service Agencies: Engage inspection and testing agencies which are pre-qualified as complying with "Recommended Requirements for Independent Laboratory Qualification" by the American Council of Independent Laboratories, and specialize in the types of inspections and tests to be performed.

1. Each inspection and testing agency engaged shall be authorized to operate in the State in which the Project is located.

PART 2 – PRODUCTS

(Not Used)

PART 3 – EXECUTION

(Not Used)

END OF SECTION

SECTION 01500

CONSTRUCTION FACILITIES AND TEMPORARY CONTROLS

PART 1 – GENERAL

- 1.1 SUMMARY: Temporary utilities and miscellaneous facilities required during construction, complete, including maintenance and removal. All costs to be included in Contract Sum.

PART 2 - PRODUCTS

2.1 UTILITIES:

- A. Temporary Utilities: Provide and pay for costs for gas, water, and electricity required for performance of this work. Make necessary arrangements with utility companies for temporary service.
1. Gas and Portable Water: Provide necessary temporary piping and fittings.
 2. Electricity: Provide necessary temporary electric wiring. Provide area distribution boxes so located that individual trades may use their own construction type extension cords to obtain adequate power and lighting for construction operations.
- A. Telephone: Provide telephone and facsimile in the field office. Pay costs for temporary service.
- B. Computer with internet and e-mail capabilities on site.
- 2.2 TEMPORARY SANITARY FACILITIES: Provide on-site temporary toilet facilities for use of construction personnel; maintain in a sanitary condition. Comply with applicable codes and regulations of authorities having jurisdiction.
- 2.3 FIELD OFFICE AND SHEDS: Provide field office and storage facilities adequate in size and accommodation for Contractor's offices, superintendent's office, and supply and tool's rooms. Provide space for project meeting with seating. Provide space for approved submittals and shop drawings.
- 2.4 PROJECT SIGN: Provide project sign, to be located as indicated. Architect will provide exact text lettering, and color selection at a later date. Sign to be minimum 96 sq. ft. and shall be mounted on wood framing for duration of project.
- 2.5 PARKING AND STAGING AREAS: Available on site.
- 2.6 CONSTRUCTION AIDS: Provide and maintain for the duration of construction temporary equipment and apparatus including scaffolds, elevators and hoists, canopies, tarpaulins, barricades, warning signs, steps, ladders, platforms, ramps, chutes, and other temporary

construction aids and miscellaneous facilities as necessary for proper completion of the work; comply with pertinent safety regulations.

- 2.7 TEMPORARY HEAT & HUMIDITY CONTROL: Provide temporary heat where indicated and where needed for the proper performance of work, for curing or drying of work recently installed, and protection of work in place from, adverse effects of low temperatures. Delay work which is indicated to be performed or maintained under controlled humidity conditions until permanent HVAC systems is operational.
- 2.7 DEWATERING AND SNOW AND ICE REMOVAL: Maintain site, excavations, and construction free of water, snow and ice, as necessary for protection and execution of the work. Comply with dewatering requirements specified in Section 02200; where feasible, utilize same facilities.
- 2.9 TEMPORARY FENCING: Provide and maintain a temporary fence around the entire construction area, with truck and pedestrian gates, as required by project conditions.
- 2.10 TEMPORARY FIRE PROTECTION: During construction period and until fire protection needs are fulfilled by permanent facilities, provide and maintain types and forms of temporary fire protection needed to protect facilities against fire losses. Store combustible materials in recognized fire—safe locations and containers.
- 2.11 RUBBISH CONTAINERS: Provide suitable containers with covers or refuse from meals eaten on job site. Remove refuse from containers at least once in every 72 hour period. Place one container beside each drinking water facility to receive discarded paper cups. Pick up and place bottles, cans, paper and garbage of every description in covered rubbish containers each day. Comply with NFPA 241 for removal of combustible waste.
- 2.12 SECURITY: Provide sufficient control to prevent illegal entry or damage during nights, holidays, or other periods when work is not being executed, and such other controls as required during working hours.
- 2.13 ENVIRONMENTAL PROTECTION: Review exposure to possible environmental problems with Owner and Design Team. Establish procedures and discipline among trades and provided needed facilities which will protect against environmental problems (pollution of air, water and soil, excessive noise and similar problems).

PART 3 – EXECUTION

- 3.1 REMOVAL: Maintain construction facilities and temporary controls as long as needed for safe and proper completion of work. Remove temporary facilities and controls as rapidly as progress of work will permit or as directed by Architect.

END OF SECTION

SECTION 01500-2

SECTION 01770

PROJECT CLOSEOUT PROCEDURES

PART 1- GENERAL

1.1 SUMMARY

- A. This Section includes administrative and procedural requirements for contract closeout, including, but not limited to, the following:
 - 1. Inspection procedures.
 - 2. Project Record Documents.
 - 3. Operation and maintenance manuals.
 - 4. Warranties.
 - 5. Instruction of Owner's personnel.
 - 6. Final cleaning.
- B. See "General Conditions" for requirements for Applications for Payment for Substantial and Final Completion.
- C. See Divisions 2 through 16 Sections for specific closeout and special cleaning requirements for products of those Sections.
- D. Utilize Project closeout checklist at end of section.

1.2 SUBSTANTIAL COMPLETION

- A. Preliminary Procedures: Before requesting inspection for determining date of Substantial Completion, complete the following. List items below that are incomplete in request.
 - 1. Prepare a list of items to be completed and corrected (punch list), the value of items on the list, and reasons why the Work is not complete.
 - 2. Advise Owner of pending insurance changeover requirements.
 - 3. Obtain and submit releases permitting Owner unrestricted use of the Work and access to services and utilities. Include occupancy permits, operating certificates, and similar releases.
 - 4. Make final changeover of permanent locks and deliver keys to Owner. Advise Owner's personnel of changeover in security provisions.
 - 5. Complete startup testing of systems.

6. Terminate and remove temporary facilities from Project site, along with mockups, construction tools, and similar elements.
 7. Advise Owner of changeover in heat and other utilities.
 8. Submit changeover information related to Owner's occupancy, use, operation, and maintenance.
 9. Complete final cleaning requirements, including touchup painting.
 10. Touch up and otherwise repair and restore marred exposed finishes to eliminate visual defects.
- B. Inspection: Submit a written request for inspection for Substantial Completion. On receipt of request, Architect will either proceed with inspection or notify Contractor of unfulfilled requirements. Architect will prepare the Certificate of Substantial Completion after inspection or will notify Contractor of items, either on Contractor's list or additional items identified by Architect, that must be completed or corrected before certificate will be issued.
1. The Architect will repeat inspection when requested to review work identified in previous inspections as incomplete is completed or corrected.
 2. Results of completed inspection will form the basis of requirements for Final Acceptance.

1.3 FINAL COMPLETION

- A. Preliminary Procedures: Before requesting final inspection for determining date of Final Completion, complete the following:
1. Submit a final Application for Payment according to Division 1 Section "Payment Procedures."
 2. Submit certified copy of Architect's Substantial Completion inspection list of items to be completed or corrected (punch list), endorsed and dated by Architect. The certified copy of the list shall state that each item has been completed or otherwise resolved for acceptance.
 3. Submit evidence of final, continuing insurance coverage complying with insurance requirements.
 4. Submit pest-control final inspection report and warranty.
 5. Instruct Owner's personnel in operation, adjustment, and maintenance of products, equipment, and systems.
- B. Inspection: Submit a written request for final inspection for acceptance. On receipt of request, Architect will either proceed with inspection or notify Contractor of unfulfilled

requirements. Architect will prepare a final Certificate for Payment after inspection or will notify Contractor of construction that must be completed or corrected before certificate will be issued.

1. Re-inspection: Request re-inspection when the Work identified in previous inspections as incomplete is completed or corrected.

1.4 PROJECT RECORD DOCUMENTS

- A. Prepare and submit one full copy of the following:
 1. Record Drawings
 2. Record Specifications
 3. Record Product Data.
- B. Record Drawings: Maintain and submit one set of blue- or black-line white prints of Contract Drawings and Shop Drawings.
 1. Mark Record Prints to show the actual installation where installation varies from that shown originally. Require individual or entity who obtained record data, whether individual or entity is Installer, subcontractor, or similar entity, to prepare the marked-up Record Prints.
 - a. Give particular attention to information on concealed elements that cannot be readily identified and recorded later.
 - b. Record data as soon as possible after obtaining it. Record and check the markup before enclosing concealed installations.
 2. Mark record sets with erasable, red-colored pencil. Use other colors to distinguish between changes for different categories of the Work at the same location.
 3. Note Construction Change Directive numbers, Change Order numbers, alternate numbers, and similar identification where applicable.
 4. Identify and date each Record Drawing; include the designation "PROJECT RECORD DRAWING" in a prominent location. Organize into manageable sets; bind each set with durable paper cover sheets. Include identification on cover sheets.
- C. Record Specifications: Submit one copy of Project's Specifications, including addenda and contract modifications. Mark copy to indicate the actual product installation where installation varies from that indicated in Specifications, addenda, and contract modifications.
 1. Give particular attention to information on concealed products and installations that cannot be readily identified and recorded later.
 2. Mark copy with the proprietary name and model number of products, materials, and equipment furnished, including substitutions and product options selected.

3. Note related Change Orders and Record Drawings, where applicable.
- D. Record Product Data: Mark Product Data to indicate the actual product installation wherever installation varies substantially from that indicated in Product Data submittal.
1. Give particular attention to information on concealed products and installations that cannot be readily identified and recorded later.
 2. Include significant changes in the product delivered to Project site and changes in manufacturer's written instructions for installation.
 3. Note related Change Orders, Record Drawings and Product Data where applicable.
- E. Miscellaneous Record Submittals: Assemble miscellaneous records required by other Specification Sections for miscellaneous record keeping and submittal in connection with actual performance of the Work. Bind or file miscellaneous records and identify each, ready for continued use and reference.

1.5 OPERATION AND MAINTENANCE MANUALS

- A. Assemble a complete set of operation and maintenance data indicating the operation and maintenance of each system, subsystem, and piece of equipment not part of a system. Include operation and maintenance data required in individual Specification Sections and as follows:
1. Operation Data: Include emergency instructions and procedures, system and equipment descriptions, operating procedures, and sequence of operations.
 2. Maintenance Data: Include manufacturer's information, list of spare parts, maintenance procedures, maintenance and service schedules for preventive and routine maintenance, and copies of warranties and bonds.
- B. Organize operation and maintenance manuals into suitable sets of manageable size. Bind and index data in heavy-duty, three-ring, vinyl-covered, loose-leaf binders, in thickness necessary to accommodate contents, with pocket inside the covers to receive folded oversized sheets. Identify each binder on front and spine with the printed title "OPERATION AND MAINTENANCE MANUAL," Project name, and subject matter of contents.

1.6 WARRANTIES

- A. Submittal Time: Submit written warranties on request of Architect for designated portions of the Work where commencement of warranties other than date of Substantial Completion is indicated.

- B. Organize warranty documents into an orderly sequence based on the table of contents of the Project Manual.
 - 1. Bind warranties and bonds in heavy-duty, 3-ring, vinyl-covered, loose-leaf binders, thickness as necessary to accommodate contents, and sized to receive 8 1/2 by 11 inch paper.
 - 2. Provide heavy paper dividers with plastic-covered tabs for each separate warranty. Mark tab to identify the product or installation. Provide a typed description of the product or installation, including the name of the product and the name, address, and telephone number of Installer.
 - 3. Identify each binder on the front and spine with the typed or printed title "WARRANTIES," Project name, and name of Contractor.
- C. Provide additional copies of each warranty to include in operation and maintenance manuals.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Cleaning Agents: Use cleaning materials and agents recommended by manufacturer or fabricator of the surface to be cleaned. Do not use cleaning agents that are potentially hazardous to health or property or that might damage finished surfaces.

PART 3 - EXECUTION

3.1 DEMONSTRATION AND TRAINING

- A. Instruction: Instruct Owner's personnel to adjust, operate, and maintain systems, subsystems, and equipment not part of a system.
 - 1. Provide instructors experienced in operation and maintenance procedures.
 - 2. Provide instruction at mutually agreed-on times. For equipment that requires seasonal operation, provide similar instruction at the start of each season.
 - 3. Schedule training with Owner, through Architect, with at least seven (7) days' advance notice.
 - 4. Coordinate instructors, including providing notification of dates, times, length of instruction, and course content.

- B. Program Structure: Develop an instruction program that includes individual training modules for each system and equipment not part of a system, as required by individual Specification Sections. For each training module, develop a learning objective and teaching outline.
 - 1. Include instruction for system design and operational philosophy, review of documentation, operations, adjustments, troubleshooting, maintenance, and repair.

3.2 FINAL CLEANING

- A. General: Provide final cleaning. Conduct cleaning and waste-removal operations to comply with local laws and ordinances and Federal and local environmental and antipollution regulations.
- B. Cleaning: Employ experienced workers or professional cleaners for final cleaning. Clean each surface or unit to condition expected in an average commercial building cleaning and maintenance program. Comply with manufacturer's written instructions.
 - 1. Complete the following cleaning operations before requesting inspection for certification of Substantial Completion for entire Project or for a portion of Project:
 - a. Clean Project site, yard, and grounds, in areas disturbed by construction activities, including landscape development areas, of rubbish, waste material, litter, and other foreign substances.
 - b. Sweep paved areas broom clean. Remove petrochemical spills, stains, and other foreign deposits.
 - c. Rake grounds that are neither planted nor paved to a smooth, even-textured surface.
 - d. Remove tools, construction equipment, machinery, and surplus material from Project site.
 - e. Clean exposed exterior and interior hard-surfaced finishes to a dirt-free condition, free of stains, films, and similar foreign substances. Avoid disturbing natural weathering of exterior surfaces. Restore reflective surfaces to their original condition.
 - f. Remove debris and surface dust from limited access spaces, including roofs, plenums, shafts, trenches, equipment vaults, manholes, attics, and similar spaces.
 - g. Sweep concrete floors broom-clean in unoccupied spaces.
 - h. Vacuum carpet and similar soft surfaces, removing debris and excess nap; shampoo if visible soil or stains remain.

- i. Clean transparent materials, including mirrors and glass in doors and windows. Remove glazing compounds and other noticeable, vision obscuring materials. Replace chipped or broken glass and other damaged transparent materials. Polish mirrors and glass, taking care not to scratch surfaces.
 - j. Remove labels that are not permanent.
 - k. Touch up and otherwise repair and restore marred, exposed finishes and surfaces. Replace finishes and surfaces that cannot be satisfactorily repaired or restored or that already show evidence of repair or restoration.
 - i. Do not paint over "UL" and similar labels, including mechanical and electrical nameplates.
 - l. Wipe surfaces of mechanical and electrical equipment, and similar equipment. Remove excess lubrication, paint and mortar droppings, and other foreign substances.
 - m. Replace parts subject to unusual operating conditions.
 - n. Clean plumbing fixtures to a sanitary condition, free of stains, including stains resulting from water exposure.
 - o. Replace disposable air filters and clean permanent air filters. Clean exposed surfaces of diffusers, registers, and grills.
 - p. Clean light fixtures, lamps, globes, and reflectors to function with full efficiency. Replace burned-out bulbs, and those noticeably dimmed by hours of use, and defective and noisy starters in fluorescent and mercury vapor fixtures to comply with requirements for new fixtures.
 - q. Leave Project clean and ready for occupancy.
- C. Pest Control: Engage an experienced, licensed exterminator to make a final inspection and rid Project of rodents, insects, and other pests. Prepare a report.
- D. Comply with safety standards for cleaning. Do not burn waste materials. Do not bury debris or excess materials on Owner's property. Do not discharge volatile, harmful, or dangerous materials into drainage systems. Remove waste materials from Project site and dispose of lawfully.

PROJECT CLOSEOUT CHECKLIST

PROJECT _____

GENERAL CONTRACTOR _____

INSPECTOR _____ DATE _____

The following items shall be completed for Final Acceptance and Closeout of the Project:

Item	By	Complete	Comments
Architect's Certificate of Substantial Completion	G.C.		
Certificate of Occupancy from Griffithville, Arkansas	Building Inspector		
Smoke Development and Fire Spread Rating Information on Interior Finishes	G.C.		
Certification that Final Punch Lists have been completed	G.C.		
Certification of Fire Sprinkler System Operation (IF REQUIRED BY CODE)	G.C.		
Certification of Fire Alarm System Operation	G.C.		
Certification of Mechanical System Operation	G.C.		
New HVAC filters installed in all units	G.C.		
Certification of Electrical System Operation	G.C.		
Certification of Security System Operation (IF REQUIRED BY OWNER)	G.C.		
Portable Fire Extinguishers Inspected and Tested	G.C.		
G.C. has Demonstrated and Trained Owner's Personnel on Operation and Maintenance of Project systems.	G.C.		
Verification that Final Air Balance Report will be delivered to Owner	G.C.		
Verification that Project Record Documents will be delivered to Owner	G.C.		
Verification that Warranties will be delivered to Owner	G.C.		
Verification that Operation & Maintenance Manuals will be delivered to Owner	G.C.		

END OF SECTION

SECTION 01770-8

SECTION 02110

SITE CLEARING

PART 1 – GENERAL

- 1.1 DESCRIPTION OF WORK: The work included under this section consists of furnishing all necessary labor, equipment, material and transportation necessary to complete the removal and disposal of all trees, brush, stumps, roots, grass, weeds, rubbish and all other obstructions resting on or protruding through the surface of the existing ground and excavated areas.
- 1.2 SITE CONDITIONS: Selective site clearing will be performed in some areas by retaining selected trees. The trees selected by the Owner for saving shall be protected from construction equipment by the Contractor in a manner approved by the Owner and meeting the criteria for such protection as required by the applicable governmental agency.

PART 2 – PRODUCTS

NOT APPLICABLE

PART 3- EXECUTION

- 3.1 SITE CLEARING
 - A. Unless otherwise shown on the plans, all of the right-of-way areas and adjacent utility easements for telephone, electric and cable TV distribution lines; utility easements for water, storm drainage, and sanitary sewer construction, or areas designated for site grading shall be cleared and grubbed.
 - B. Where excavation is required within the roadway area or building site areas, all stumps, roots, etc., shall be removed to a depth of not less than one (1) foot below the subgrade surface or final pad grade. Where fill is required within the roadway area or building site areas all stumps shall be grubbed to a depth of one (1) foot below existing grade and replaced with compacted backfill before the area is filled.
 - C. Within all other areas where clearing and grubbing is required, all stumps, roots, boulders and other debris projecting through or appearing on the surface of the ground shall be removed to a depth of one (1) foot below the completed surface.

- 3.2 SELECTIVE- SITE CLEARING: As an exception to the above provisions, where so directed by the Owner or indicated on the plans, desirable trees shall be trimmed, protected and left standing.
- 3.3 REMOVAL OF IMPROVEMENTS: Remove existing above ground and below grade improvements and structures necessary to permit construction, and other work as indicated.

END OF SECTION

SECTION 02200

EARTHWORK

PART 1- GENERAL

- 1.1 The work covered under this section consists of excavating removing and satisfactorily disposing of all materials, of whatever nature, within the limits of construction. Included in this section is all excavation, embankment and finishing necessary for construction, preparation and completion of all embankments, subgrades, ditches, slopes and intersections, all in accordance with the required alignment, grade and cross sections shown on the drawings or as directed by the Architect.

PART 2 – PRODUCTS

NOT APPLICABLE

PART 3 – EXECUTION

- 3.1 **EXCAVATION:** The Contractor shall perform all excavation necessary to accomplish the construction indicated on the plans. Excavation shall be unclassified regardless of material. Material not required for fill or embankment shall either be deposited on the project site or be removed from the project site as directed by the Architect. The Contractor shall do all shoring necessary for the safety of the workers and any existing facilities. Wherever excavations are made below the grades indicated on the plans, suitable selected materials shall be used to restore the area to the proper grade and shall be compacted in accordance with these specifications.
- 3.2 **UNSUITABLE MATERIALS:** Where muck, rock, clay or other material within the limits of construction is, in the opinion of the Architect, unsuitable in its original position, the Contractor shall excavate such material, which shall be compacted and shaped to conform to the required section. Unsuitable materials shall either be deposited on the project site or be removed from the project site as directed by the Architect. Hauling shall be the responsibility of the Contractor.
- 3.3 **EMBANKMENT:**
- A. This work shall consist of furnishing and placing the materials required for fill or embankment for the construction as shown on the drawings. The material used for embankment shall consist of sand, gravel, or a mixture thereof and/or other suitable material as approved by the Engineer. If the materials are of a variable

quality, the Contractor shall plan his operation so that the upper two feet of the embankment is constructed of selected materials as approved and directed by the Engineer.

- B. Prior to placing any embankment, the surface to receive the embankment shall be plowed or scarified. Fill or embankment shall be placed in successive uniform layers 8 inches, measured loose or as approved by the Architect, or Engineer. Each layer will then be compacted by an approved method in accordance with the requirements specified in this section.

3.4 BACKFILL: All backfill material shall be clean and free of trash, organic materials, muck, clay, rock, or other debris and shall be thoroughly placed in layers not to exceed eight inches loose, compacted and brought to an elevation above the finished grade sufficient to allow for settlement. Prior to placing backfill, the areas around structures upon which the backfill is to be placed shall be cleaned of all trash and debris of any nature. Sheeting and bracing if utilized shall be left in place. Any sheeting and bracing allowed to be left in place shall be cut off a minimum of 2.5 feet below finished grade.

3.5 FINISHING: This shall consist of the preparation, trimming and shaping to the lines and grades shown on the drawings, and all areas outside the paved areas in such a manner to receive grassing, sod or planting without additional work.

3.6 TOPSOIL:

- A. All areas to receive grassing, sod or planting shall be prepared by disk-harrowing or similar operations thoroughly pulverizing the soil to a suitable depth. Topsoil cover shall be provided over all areas to a minimum depth of four (4) inches. The prepared soil shall be loose and reasonably smooth as well as being reasonably free of large clods, roots, and other material which will interfere with the work or subsequent maintenance.
- B. Obtain topsoil from local sources or from areas having similar soil characteristics to that found at project site. Obtain topsoil only from naturally, well-drained sites where topsoil occurs in a depth of not less than four inches. Do not obtain from bogs or marshes.
- C. Before delivery of topsoil supply Architect with written statement giving locations of properties from which topsoil is to be obtained, names and addresses of Owners, depth to be stripped and crops grown during the past two years.

3.7 COMPACTION:

- A. Areas to be compacted shall be moistened as required to obtain the desired density.

- B. The Contractor shall inspect all compacted areas prior to further construction operations to ensure that satisfactory compaction has been obtained. All embankment, including backfill and embankment adjacent to structures, shall be compacted to a density of not less than ninety-five percent (95%) of the maximum density as determined by Modified Proctor Test.

3.8 DENSITY TESTS: An independent professional testing laboratory at the expense of the Contractor shall make Density test. The Engineer in accordance with the following frequencies shall determine locations of the tests:

- A. Embankment at a rate of one test per 2500 square feet per 12-inch layer.
- B. Backfill at a rate of one test per 2500 square feet.

END OF SECTION

SECTION 02210

SITE GRADING

PART 1 - GENERAL

- 1.1 To bring to finished elevations all earth materials as required in drawings. This general work includes the completion of finish grading so that surfaces of compacted material are correctly oriented with the requirements of the slab or other components, which will rest on the grade at that point.

PART 2 - MATERIALS

- 2.1. Fill: All fill shall be clean sand or other locally approved fill material, free from debris, vegetable matter and other deleterious substances.
- 2.2 Topsoil: All topsoil material on the site that is determined by the Architect to be satisfactory for landscaping and /or grassing operations shall be stockpiled near the excavation limits for such use unless otherwise directed by the Architect. See Section 02200 for requirements.

PART 3 -EXECUTION

- 3.1 Grading: Fill, backfill and rough grade as necessary to bring entire site level with elevations of undersides of concrete slabs, walks, paving and finished landscaping as indicated on drawings or in specifications. All fill and backfill shall comply with Section 02221.
- 3.2 Finish Grading
 - A. Where elevations are indicated on plans, obtain such finish elevations, and establish uniform slopes of finish grades between indicated elevations.
 - B. Where elevations are not indicated, establish grade uniform from finished spot elevations at the exterior face of the building to the nearest indicated elevations for finished grades, as shown on plans.
 - C. Provide smooth grade transitions from existing to new areas of work to assure proper drainage.

END OF SECTION

SECTION 02212

SITE EXCAVATION

PART 1 - GENERAL

1.1 SECTION INCLUDES

- A. Excavation for curb and gutter and paving.
- B. Excavation for site structures.

- 1.1 FIELD MEASUREMENTS: Verify that survey benchmark and intended elevations for the Work are as indicated.

PART 2- PRODUCTS

NOT APPLICABLE

PART 3 - EXECUTION

3.1 PREPARATION

- A. Identify required lines, levels, contours and datum.
- B. Identify known underground, above ground, and aerial utilities. Stake and flag locations.
- C. Protect above and below grade utilities which are to remain.
- D. Protect benchmarks, paving and curbs from excavation equipment and vehicular traffic.

3.2 EXCAVATION

- A. Excavate subsoil required to accommodate paving, construction operations, and curb and gutter.
- B. Machine slope banks to angle of repose or less, until shored.
- C. Notify Architect of unexpected subsurface conditions and discontinue affected work in area until notified to resume work.

D. Correct unauthorized excavation at no extra cost to owner.

3.3 FIELD QUALITY CONTROL

A. Field inspection will be performed under provisions of Section 02200.

B. Provide for visual inspection of final surfaces.

3.4 PROTECTION: Protect excavations by methods required to prevent cave-in or loose material from falling into excavation.

END OF SECTION

SECTION 02221

SOIL COMPACTION CONTROL

PART 1 – GENERAL

- 1.1 SCOPE: Whenever earthfill is required either (a) to replace existing soil failing to meet required bearing capacities, or (b) to raise the elevation of existing grade or backfill trenches and excavations within a minimum of 5-0' outside building and pavement lines, the following shall be required.
- A. The Contractor shall engage the services of an independent testing laboratory approved by the Architect, to perform the following services:
1. Classify fill material.
 2. Make field density test to determine the percentage of compaction of compacted fill.
 3. Determine laboratory moisture density curve.
 4. Supervision.
- 1.2 SOIL CONDITIONS: Report any soil conditions which vary from the Soils Report to the Architect. See Section 02220, Excavating, Backfilling and Compacting.

PART 2 – PRODUCTS

NOT APPLICABLE

PART 3 - EXECUTION

- 3.1 STRIPPING FOR FILL: Area to be covered by compacted fill shall be stripped or excavated to a sufficient depth to remove all material not suitable for embankment. Topsoil, soft unstable earth, organic matter and other objectionable material shall be removed from the surface then be plowed or scarified to a depth of at least six inches, and until the surface is free from ruts, hummocks, or other uneven features, which would tend to prevent uniform compaction by the equipment to be used, Stripping and filling of depressions shall be done concurrently with grubbing. The Contractor shall provide adequate drainage of the fill foundation, after stripping, to prevent ponding of water until the fill has been placed. The Contractor shall maintain the stripped area free from objectionable material until the fill has been placed thereon.

3.2 PLACEMENT OF FILL:

- A. When the fill areas have been prepared as specified above, the natural ground surface shall be compacted by methods and to density and moisture requirements specified herein for compaction of fill.
- B. The placement of fill materials in the fill area shall be subject to the direction of the inspector who reserves the right at all times to specify the area, and location within the area, from which the materials shall be procured and the location in the fill in which the material shall be placed. No brush, roots, sod, rocks or lumps or other unsuitable material shall be placed in the fill.
- C. The inspector may separately specify limiting soil test results such as but not restricted to maximum acceptable plasticity index or gradation and grain size limits, and these separate stipulations shall be an integral part of these specifications.
- A. Compaction shall be by rollers, multiple wheel pneumatic roller, or other types of suitable compaction equipment. It is the responsibility of the Contractor to select and furnish equipment, which will compact the fill uniformly to the required density. See Section 02220, Excavating, Backfilling and Compacting.
- B. Filling shall begin in the lowest section of each specified fill area. The Contractor shall spread the fill soil in approximately eight inches (8") loose horizontal layers over the fill areas. Each layer shall be thoroughly blade mixed during the spreading to insure uniformity of material in each layer. The surface of each layer shall be provided with sufficient longitudinal and transverse slope to provide for runoff of surface water from every point. Filling will be conducted so that no obstruction to drainage from other sections of the fill area is created at any time. Sumps or ditches, if any, to be used for drainage control will be continuously maintained in effective operating conditions.
- C. Immediately before placing the material for a layer, the Contractor shall, if necessary, wet the rolled surface of the preceding layer of the foundation. Materials for the compacted fill obtained from required excavation or borrow areas may be either too wet or too dry to permit proper compaction. The contractor shall process materials in the borrow areas as required to bring them to approximately the correct water content before placing them on the fill. If water must be added on top of the lift to increase the moisture content to the appropriate value, manipulation of the fill material will be required to work the moisture into the material until a uniform distribution of moisture has been produced. The amount of water applied on the fill shall be accurately controlled and shall be sufficient to dampen the material as required. An adequate water supply shall be available at all times during the progress of the work.
- D. If a water truck is used for adding moisture to fill, the watering mechanism shall be so attached that the area to be watered shall be free from ruts. Should the fill material as dumped, spread, or moistened be too wet to permit the securing of the

desired compaction, rolling shall be delayed until the materials are dried to the required moisture content.

- E. After each layer (lift) has been placed, brought to the proper moisture content, mixed and spread evenly, it shall be thoroughly compacted to the specified density. Compaction of each layer shall be continuous over its entire area and the compaction equipment shall make sufficient trips to insure that the required density has been obtained. Each trip of the compaction equipment shall overlap the preceding or adjacent trip for a distance not less than one foot.
- F. Each layer of fill is to be compacted as uniformly as practicable, by suitable equipment, so that the compacted fill layer will have a dry density of the compacted material equivalent to 95% of the modified proctor density (ASTM D-1557), as determined by in-place density tests, under the supervision of the soils engineer.
- G. Each layer of compacted fill shall be approved by the inspector or soils engineer of a independent testing company before placement of an additional lift of fill. When a portion of the fill is found to be unsatisfactory, the inspector or soils engineer, may require removal, replacement and recompaction of the material and replacement with other compacted soil.
- H. Portions of the fill, which cannot be reached and effectively compacted by the compaction equipment, shall be placed in two inch layers and compacted with suitable mechanical hand tamping equipment, all such backfill to be compacted to the density specified for the general area fill. The total depth of compaction shall be at least two feet.
- I. Fill slopes shall be compacted. Compacting operations shall be continued until the slopes are stable but not too dense for planting on the slopes. Compacting of the slopes may be done progressively in increments of three to five feet in fill height.
- J. Field density test of the compaction of each layer of fill shall be made. Such tests shall be performed by an approved testing laboratory. Density tests shall be taken in the compacted material below the disturbed surface. The field density test procedure shall conform to ASTM Designation D-2922. Moisture content of the fill soils shall be checked by the test procedure of ASTM Designation D-558 or D-2922. Other test methods for the determination of density and/or moisture content may be used if approved by the inspector and if such test method is capable of performing at least equal to that of the designated method.
- K. When tests indicate that the density of any layer of fill or portion thereof is below the required density, the particular layer or portion shall be revoked until the required density has been obtained.

- L. Field density and moisture shall be performed for each compacted layer, in each site requiring inspection, at locations and with a frequency as follows.
1. The horizontal area of each compacted lift shall be subdivided into group of control areas. The size of each control area shall not exceed 2500 square feet for building area and 5,000 square feet for pavement area. Field density and moisture tests shall be performed within each control area and at representative locations in the footing bearing soil levels at the following frequencies:
 - a. Embankment at a rate of one test per 2500 square feet per 12 inches.
 - b. Backfill at a rate of one test per 2500 square feet.
 2. Within each control area, the location of the field density and moisture test shall be determined by random sampling methods except as hereinafter modified. If a uniform grid pattern is used to determine control areas and test locations, then the random sampling requirements shall be satisfied if the location of the grid pattern origin is selected by random sampling methods.
 3. When the area covered by compacted fill lifts includes all or part of that area on each individual lot which is likely to be used as building location, then the field density and moisture tests for the enclosing control area for that site shall be performed within the proposed building location rather than at a random location. When two or more such building locations are included within a single control area, there shall be a minimum of one field density and moisture test at each proposed building location within any two successive lifts.
 4. The horizontal and vertical locations of all field density and moisture control tests shall be determined, recorded, and reported with the results of the tests. The horizontal locations shall be reported as a grid coordinate referred to the master grid established for the project and shown on the project drawings. Horizontal locations shall be established to within five feet of the actual locations. Vertical elevation of each test location shall be determined by leveling and referenced to a well-defined benchmark for the project. An accuracy of one-tenth of a foot shall be maintained for elevation measurements.
- M. The fill operation shall be continued in eight inch loose layers, compacted as specified above, until the fill has been brought to the finished slopes and elevations shown on the accepted project drawings.
- N. Supervision by the inspector or his duly authorized representative shall be continuous during the preparation, filling, and compacting operation so that he can certify that the fill was made in accordance with these specifications and the project drawings.

- O. The cost of testing shall be the responsibility of the Contractor. The Contractor shall assume all cost for additional testing required by failure to fill to reach required compaction specifications.

END OF SECTION

SECTION 02222

EXCAVATING, BACKFILLING, AND COMPACTING FOR STRUCTURE

PART 1 - GENERAL

- 1.1 SUMMARY: Earthwork for structure, complete, including excavation, placement, stabilization, and compaction of earth.
- 1.2 RELATED WORK SPECIFIED IN OTHER SECTIONS:
- A. Site preparation, concrete paving; Division 2.
 - B. Trenching and backfilling for mechanical and electrical work; Divisions 15 and 16, respectively, except requirements are specified in this section.
- 1.3 SUBMITTALS: In compliance with Section 01300, submit field density test reports.
- 1.4 TESTING AND INSPECTION: Employ at Contractor's expense, a testing laboratory acceptable to the Architect to perform soil testing and inspection service for quality control during earthwork operations.
- 1.5 PROJECT CONDITIONS:
- A. Site Information:
 - 1. Data on indicated subsurface conditions are not intended as representations or warranties of accuracy or continuity between soil borings. It is expressly understood that Owner will not be responsible for interpretations or conclusions drawn there from by Contractor. Data are made available for the convenience of Contractor. Contractor at no cost to Owner may make additional test borings and other exploratory operations.
 - B. Existing Utilities: Locate existing underground utilities in the area of work. Provide adequate means of protection during earthwork operations. Should uncharted, or incorrectly charted, piping or other utilities be encountered during excavation, consult the utility owner immediately for directions. Cooperate with Owner and utility companies in keeping respective services and facilities in operation. Repair damaged utilities to satisfaction of utility owner.
 - C. Use of Explosives: Use of explosives will not be permitted.

- D. Protection: Protect utilities and other facilities from damage caused by settlement, lateral movement undermining, washout and other hazards created by earthwork operations.

PART 2 — PRODUCTS

2.1 SOIL MATERIALS:

- A. Drainage Fill: Washed, uniformly graded mixture of crushed stone, or crushed or uncrushed gravel, with 100% passing a 1—1/2 sieve and not more than 5% passing a No. 4 sieve.
- B. Select Backfill And Fill Materials:
 - 1. Select sandy clay or clayey sand having a liquid limit of less than 40 or an approved silty clay—shale mixture. Fill soils classifying as CL, Sc or Gc according to Unified Soils Classifications are generally considered suitable.
 - 2. On site low plasticity overburden soils and weathered rock are considered appropriate for use as fill and backfill. Note: Water content will likely require adjustment. Refer to special compaction and placement requirements.

PART 3 – EXECUTION

3.1 EXCAVATION:

- A. Classification: Remove and dispose of any material encountered to obtain required subgrade elevations, including pavement, obstructions visible on ground surface, underground structures and utilities indicated to be removed, boulders, solid rock, rock in ledges, and rock-hard cementitious aggregate deposits. Correct unauthorized excavations (removal of materials beyond indicated subgrade elevations) by extending the indicated bottom elevation of the footing to the lower elevation.
- B. Shoring and Bracing: Provide materials for shoring and bracing such as sheet piling, uprights, stringers and cross—braces, in good serviceable condition.

- C. Dewatering: Prevent surface water and subsurface or ground water from flowing into excavations and from flooding project site and surrounding area. Do not allow water to accumulate in excavations. Remove water to prevent softening of foundations bottoms, undercutting footings, and soil changes detrimental to stability of subgrade and foundations. Provide and maintain pumps, well points, sumps, suction and discharge lines, and other dewatering system components necessary to convey water away from excavations. Convey water removed from excavations and rain water to collecting or runoff areas. Establish and maintain temporary drainage ditches and other diversions outside excavation limits for each structure. Do not use trench excavations as temporary drainage ditches.
- D. Material Storage: Stockpile excavated materials where directed until required for backfill and fill. Place, grade, and shape stockpiles for proper drainage. Locate and retain soil materials away from edge of excavations. Dispose of excess soil and material as specified.
- E. Excavation for Structure: Excavate for structure to elevations and dimensions shown, extending excavation a sufficient distance to permit placing and removal of concrete formwork, installation of services, other work, and for inspection. Excavate by hand to final grade just before concrete reinforcement is placed. Trim bottom to required lines and grades to provide solid base to receive concrete.
 - 1. After required excavation, proof-roll site with minimum 20,000—lb. pneumatic—tired roller, loaded tn—axle dump truck, or similar equipment. Remove soft and organic—containing soil, miscellaneous debris, and roots. Fill and compact areas.
- F. Excavation For Sitework And Utility Trenches: Provided in Divisions 2, 15 and 16; comply with requirements of this section for compaction requirements.

3.2 BACKFILL AND FILL: Place and compact acceptable soil material in layers to required elevations. Backfill excavations as promptly as work permits. Place backfill and fill materials in layers not more than 8" in loose depth, compacting each layer to required maximum density. Do not place materials on surfaces that are muddy, frozen, or contain ice or frost.

3.3 COMPACTION: Compact soils to not less than the following percentages of maximum Modified Proctor density for soils which exhibit a well-defined moisture density relationship determined in accordance with ASTM D 1557.

- A. Compact each layer of backfill and fill soil materials and the top 12' of subgrade within and at least 10 feet beyond building perimeter to 95% Modified Proctor maximum density.

- B. Control moisture content of subgrade and soil material within limits, near optimum moisture content, permitting compaction to required density. Add water uniformly to soil material where soil is too dry to permit compaction. Remove and replace, or scarify and air dry, soil material that is too wet to permit compaction.
 - 1. If weathered shale fragments/silty clay blends are utilized as fill, particular attention should be given to compaction and placement procedures. Shale fragment fill should be watered as necessary to obtain a moisture content ranging from optimum to 3% wet of optimum. Kneading type vibratory compactors such as sheep foot rollers must be used to enhance breakdown of shale particles.
 - C. In each compacted fill layer make one field density test for every 2500 sq. ft. of building slab area, but in no case less than 3 tests. Maximum distance between tests shall be 50'.
- 3.4 BUILDING SLAB DRAINAGE COURSE: Place drainage fill material on prepared subgrade in single layer for course 6" thick or less and equal layers for courses more than 6" thick.
- 3.5 MAINTENANCE: Repair and re—establish grades in settled, eroded, rutted or otherwise damaged areas. In damaged compacted areas, scarify the surface, re-shape, and compact to required density prior to further construction.
- 3.6 DISPOSAL: Remove excess excavated material, trash, debris, and waste material from the site.

END OF SECTION

SECTION 02280

SOIL TREATMENT

PART 1 – GENERAL

- 1.1 SUMMARY: Soil treatment for termite control, complete.
- 1.2 SUBMITTALS: Incompliance with Section 01300, submit manufacturer's technical data, name of chemical, rates of application, and application instructions.
- 1.3 QUALITY ASSURANCE:
 - A. Complying with requirements of Arkansas State Plant Industry, or other governing authority.
 - B. Engage a professional pest control operator. licensed in accordance with regulations of governing authorities for application of soil treatment solution.
- 1.4 PROJECT CONDITIONS: Do not apply soil treatment solution until excavating, filling and grading operations are completed. Do not apply soil treatment to frozen or excessively wet soils or during inclement weather. Comply with handling and application instructions of the soil toxicant manufacturer.
- 1.5 WARRANTY: Furnish 5 year warranty certifying that applied soil termiticide treatment will prevent infestation of subterranean termites and, that if subterranean termite activity is discovered during the warranty period, Contractor will re-treat the soil and repair or replace damage caused by termite infestation.

PART 2 – PRODUCTS

- 2.1 MATERIALS: Use termiticide carrying an EPA registration number, and approved by Arkansas State Plant Board or other governing authority.

PART 3 - EXECUTION

- 3.1 APPLICATION:
 - A. Surface Preparation: Remove foreign matter which could decrease effectiveness of treatment on areas to be treated. Loosen, rake and level soil to be treated, except previously compacted areas under slabs and foundations.

- B. Concentrations and Application Rates: Comply with label directions of termiticide, and with Arkansas State Plant Industry or other governing authority specifications and recommendations for the following areas:
1. Under slab-on-grade, sidewalks, platforms, ramps, and paving within the border of roof line.
 2. Floor drains and traps.
 3. Below expansion joints, control joints, and to all electrical and plumbing conduits and pipes that penetrate the concrete slab.
- C. Allow not less than 12 hours for drying after application before beginning construction activities.
- D. Post signs in the areas of application warning workers that soil termiticide treatment has been applied. Remove signs when areas are covered by other construction.
- E. Reapply soil treatment solution to areas disturbed by subsequent excavation, landscape grading, or other construction activities following application.

END OF SECTION

SECTION 02660

WATER DISTRIBUTION

PART 1 –GENERAL

- 1.1 RELATED DOCUMENTS: General Conditions and Supplementary Conditions apply to this Section.
- 1.2 WORK INCLUDED
 - A. Domestic Water System to within 5 feet of building.
 - B. Water Meters and Vaults.
- 1.3 RELATED WORK SPECIFIED ELSEWHERE
 - A. Earthwork: Section 0220.
 - B. Plumbing: Section 15401.
- 1.4 QUALITY ASSURANCE
 - A. Applicable requirements of the following standards and codes apply:
 - 1. Uniform Plumbing Code (UPC)
 - 2. Griffithville Municipal Water Works Standard Pipeline Construction Specifications.
 - B. Contractor shall have a minimum of 5 years of experience in water line construction in Arkansas.
- 1.5 SUBMITTALS: Product Data: Catalog cuts and specifications date for all materials.
- 1.6 JOB CONDITIONS
 - A. Inspection:
 - 1. Examine areas for conditions under which work is to be performed. Report in writing to Owners Representative all conditions contrary to those shown on the drawings or specified herein and all other conditions that will affect satisfactory execution of work such as improperly constructed substrates or adjoining work. Do not proceed with work until unsatisfactory conditions have been corrected.
 - 2. Starting work constitutes acceptance of the conditions under which work is to be performed. After such acceptance this contractor shall at his expense, be responsible for correcting all unsatisfactory and defective work resulting from such unsatisfactory conditions.
 - B. Notify the Griffithville Municipal Water Works before beginning construction.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Pipe & Valves: Griffithville Municipal Water Works Standard Pipeline Construction Specifications.
- B. Backflow or Cross Connection Prevention Devices: UPC, Section 1003, and the City of Griffithville Health Services requirements.
- C. Fire Hydrants, Thrust Blocks, Inlet Connections, Chlorination, and Bacteriological Test: As per Griffithville Municipal Water Works Standard Pipeline Construction Specifications.
- D. Water meters: Provided by Griffithville Municipal Water Works.

PART 3 – EXECUTION

3.1 TRENCHING, BACKFILLING AND COMPACTION: Trenching, Backfilling and Compacting: In accordance with applicable requirements of Section 02720, parts C, D and E.

3.2 INSTALLATION

- A. Minimum depth of cover shall be 36".
- B. Vertical clearance between sewer and water lines: UPC, Section 1008.
- C. Water Meters: Provided by Griffithville Municipal Water Works.
- D. Vaults: As per Griffithville Municipal Water Works Specifications for meters greater than 2".

3.3 TESTING

- A. Other Testing: All lines as per Griffithville Municipal Water Works Standard Pipeline Construction Specifications.

END OF SECTION

SECTION 02700

SEWERAGE & DRAINAGE

PART 1 – GENERAL

1.1 RELATED DOCUMENTS

- A. General Conditions and Supplementary Conditions apply to this Section.
- B. All sanitary sewer lines shall be constructed in accordance with the Specification Requirements for Sanitary Sewers of the Griffithville Wastewater Utility.

1.2 WORK INCLUDED

- A. Storm Sewerage System.
- B. Subdrainage Systems.
- A. Sanitary Sewerage System.

1.3 RELATED WORK SPECIFIED ELSEWHERE

- A. Earthwork: Section 02200.
- B. Concrete: Section 03300.
- C. Plumbing: Section 15405

1.4 QUALITY ASSURANCE

- A. Applicable requirements of the following standards and codes apply:
 - 1. Specification Requirements for Sanitary Sewers, Griffithville Wastewater Utility.
 - 2. Griffithville Master Street Plan Construction Details.
 - 3. Standard Specifications for Highway Construction - Arkansas State Highway Commission.

1.5 SUBMITTALS: Product Data: Catalog cuts and specifications data for all materials.

1.6 JOB CONDITIONS

- A. Inspection:
 - 1. Examine areas for conditions under which work is to be performed. Report in writing to Owners Representative all conditions contrary to those shown on the drawings or specified herein and all other conditions that will affect satisfactory execution of work such as improperly constructed substrates or adjoining work. Do not proceed with work until unsatisfactory conditions have been corrected.

2. Starting work constitutes acceptance of the conditions under which work is to be performed. After such acceptance this contractor shall at his expense, be responsible for correcting all unsatisfactory and defective work resulting from such unsatisfactory conditions.

PART 2- PRODUCTS

2.1 MATERIALS

- A. Vitrified Clay Pipe: Shall be extra strength pipe conforming to ASTM C-200-55 with "0" ring.
- B. Pipe and fittings for sanitary sewer mains, sewer services, and PVC or D.I.P. storm drainage lines shall conform to Griffithville Wasterwater Utility Standard Specifications.
- C. Concrete Storm Drain Pipe shall be reinforced concrete (RCP), Class III, complying with ASTM specifications C14 and C76 latest edition.
- D. Corrugated metal pipe (CMP) and fittings shall be polymer coated (10 mill each surface) and conform to Standard Specifications for Highway Construction of the Arkansas Highway Commission.
- E. Fittings: Provide proper fittings for installation and connection of lines.

PART 3 – EXECUTION

3.1 TRENCHING, BACKFILLING AND COMPACTION

- A. Trenching, backfilling and compacting: In accord with applicable requirements of Section 02720, parts C, D and B. Sanitary sewers, sewer services and PVC or D.I.P. storm drainage line in accordance with Griffithville Wastewater Utility Standard Specifications.
- B. Generally, excavate to the line and grade shown. The excavations shall not be carried closer than to within two inches of final grade until the pipe is ready to be installed. Fine graders just ahead of the pipe laying operation shall remove the remaining two inches.
- C. Backfilling from bottom of trench to a point at least one foot over the top of pipe barrel shall be placed by hand in six inch layers and thoroughly tamped into place around the pipe. Extreme care shall be exercised to the level one foot above pipe banel to insure that no damage is caused to the pipe or that its alignment or grade is not disturbed in any way. Only clean materials may he used in this operation, clean earth (no rocks) sand or rock dust.

3.2 INSTALLATION OF STORM SEWERS

- A. Install sewer lines in straight line and on uniform rate of grade between points where changes in alignment or grade are shown. Bed barrel of pipe formally at required line and grade. Keep stopper in mouth of pipe when pipe-lying is not in progress. Set bell of pipe upstream. Support barrels of pipe continuously and scoop out space for proper clearance of bell.
- B. After installed piping has been tested and inspected, backfill excavations with approved material tamp and compact in place. Tamp carefully around pipe and above top of pipe in layers not over 6 inches. Observe care in backfilling not to disturb pipe.
- C. Provide granular bedding and dewatering materials and methods required to facilitate installation.

END OF SECTION

SECTION 02720

SEWERAGE

PART 1 – GENERAL

1.1 SCOPE

- A. Work under this Section includes furnishing and installing storm drainage pipe and appurtenances, excavations, backfilling and other incidental work in connection with this construction.
- B. Work under this Section shall be in accordance with the following codes and standards:
 - 1. American Association of State Highway and Transportation Officials (AASHTO)
 - 2. Arkansas Department of Transportation "Standard Specifications for Road and Bridge Construction" Latest Edition (DOT).
 - 3. American Society of Testing and Materials (ASTM).
 - 4. Local, City and County Codes.

PART 2 – MATERIALS

- 2.1 Install pipe conforming to these specifications and of the type and size shown on the drawings.
- 2.2 Reinforced concrete culvert pipe shall conform to the requirements of DOT Standard Specifications. Pipe joints shall be sealed with mastic gaskets and shall meet the requirements of DOT Standard Specifications.
- 2.3 PVC Pipe and Fittings for storm Sewer and Roof Drain System Application: The pipe and fittings shall comply with ASTM Specification D-3034. The pipe shall have a maximum SDR ratio of 35. Joints shall be integral wall bell and spigot. Sealing shall be provided with a rubber ring and shall be secured in the bell in a manner that will prevent sliding or rolling.
- 2.4 Inlet frames and grates and manhole frames and covers shall be as specified on the drawings.
- 2.5 Inlets, junction boxes and endwalls shall be constructed at locations shown on the drawings and in conformance with the plans and specifications. Castings shall be of the type and size shown on the drawings. Pipe connections to inlets, junction boxes and

endwalls shall be watertight and done in a manner acceptable to the Engineer. Work incidental to this work shall be done in accordance with these specifications.

PART 3 - EXECUTION

3.1 GENERAL

- A. The Contractor shall perform all excavation of every description and of whatever substances encountered to the depths indicated on the drawings or as necessary. Excavation shall be unclassified regardless of material encountered. This shall include all necessary clearing and grubbing of any foreign substance encountered within the structure or trench area. No separate payment for excavation as such will be made. The cost thereof shall be included in the prices for the pipe installation. Excavation material suitable for backfill shall be piled in an orderly manner at a sufficient distance from the trench to avoid overloading and to prevent slides or cave-ins.
- B. All muck below storm drain pipes and structure shall be completely removed to the width of the trenches at the pipe and to the depths where sand or other acceptable material is encountered. After removal of all muck, the trench shall be filled to the invert of the pipe with select fill placed and tamped in eight inch layers. Each layer shall be compacted to not less than 95 percent of the maximum density as determined by AASI-ITO Method T-ISO. Fill material shall be as specified in Section E, Backfilling.
- C. The Contractor shall dispose of the excavated materials not required or suitable for backfill as specified herein, and shall perform such grading as may be necessary to prevent surface water from flowing into the trenches. Hauling or disposal of material will be the responsibility of the Contractor. Sheeting and shoring shall be installed as may be necessary for the protection of the work, for the preservation of adjoining property and structures and for the safety of the employees. Unless otherwise indicated, excavation shall be by open cut.
- D. The Contractor shall provide adequate equipment for the removal of storm or subsurface waters which may accumulate in the excavated areas. If subsurface water is encountered, the Contractor shall utilize approved means to adequately dewater the excavation so that it will be dry for working and pipe laying. The Contractor shall obtain all required permits prior to commencement of dewatering. A wellpoint system or other approved dewatering method shall be utilized if necessary to maintain the excavation in a dry condition for preparation of the trench bottom and for pipe laying. All existing improvements such as pavements, conduits, poles, pipes and other structures shall be carefully supported and fully protected from injury and, in case of damage, they shall be restored without compensation. Existing utilities and other underground obstructions are shown on the plans but the accuracy of the locations and depth is not guaranteed. The Contractor shall be responsible for damages to these existing utilities and shall, in case they are damaged, restore them to their original condition.

- E. Contractor shall comply with all applicable provisions for local Griffithville Trench Safety. Trenches shall be excavated to such width as may be necessary for proper laying of the pipe with banks as nearly vertical as practicable. The bottom of trenches shall be accurately graded to provide uniform bearing or undisturbed soil for the entire length of each section of pipe, except where it is necessary to excavate for pipe bells and for the proper sealing of joints. Bell holes and depressions shall be excavated after the trench bottom has been graded and such holes and depressions shall not be made larger than is necessary for properly making the particular type of joint. The width of the trench at and below the top of the pipe shall not be greater than necessary to permit jointing and thorough tamping of the backfill around the pipe. The width of the trench above the level may be as wide as necessary for the sheeting and bracing and the proper performance of the work. The bottom of the trench shall be rounded so that the bottom quadrant of the pipe will rest firmly on undisturbed soil for as nearly the full length of the barrel as proper jointing operations will permit. This part of the excavation shall be done manually only a few feet in advance of the pipe laying by persons skilled in this type of work. Unauthorized over-depths shall be backfilled with loose, granular, moist earth, thoroughly tamped. Whenever the presence of incipient slides is noted during excavation, the trench walls shall be restrained with adequate sheeting, shoring and bracing. Trench excavation in the proximity of existing sanitary sewers and other utility lines shall be protected by either steel or wood sheeting. Used sheet piling in good conditions which has been inspected and approved by the Architect may be used in place of new sheet piling.
- F. Where rock is encountered it shall be removed and replaced with suitable selected materials in such manner as to provide a compacted earth cushion having a thickness under the pipe of not less than 1/2 inch per foot height of fill over the top of the pipe, with a minimum thickness of eight inches. Where bell and spigot pipe is used, the eight inch cushion shall be maintained under the bell, as well as under the straight portion of the pipe.
- G. It is the intent of this specification that all pipe and other structures shall be provided with a stable foundation and that any material which because of kind or condition is not or cannot be made stable by dewatering or compaction shall be removed or replaced. Therefore, any material encountered at the elevation shown on the drawings or specified for pipe, that will not or cannot be improved to provide a stable foundation for the pipe shall be removed and replaced. All unstable material below the grade line of the pipe shall be removed for the full width of the trench and replaced with suitable selected material, compacted as specified elsewhere in these specifications. For the purpose of this specification, muck, peat and other highly organic soils shall be considered to be unstable materials.

3.2 INSTALLATION OF PIPE

- A. Piping and appurtenances for storm sewers shall be of the type and material specified in these specifications or on the drawings. All pipe, fittings, jointing material, grates, manhole frames and covers and other appurtenances and materials shall be new material to be included in the work and if not specifically

described herein, shall be of the best quality and entirely suitable for the service intended. The Architect prior to installation shall approve all such material.

- B. Pipe shall be protected during shipping, storage, and handling against impact shocks, free fall or other damage. Any damaged pipe shall be removed from the jobsite immediately.
- C. Pipe Laying
 - 1. The trench shall be prepared as specified herein and each pipe section shall be laid in strict conformance to the lines and grade shown on the drawings.
 - 2. As pipe laying progresses, the interior of the pipe shall be cleaned of all dirt and superfluous materials. The Contractor shall at all times take whatever measures are necessary to prevent the entrance of dirt and other foreign matter into the storm sewer system. In the event that it is necessary to clean the pipe before final acceptance, the Contractor shall do so without additional compensation.
- D. No more than 200 linear feet, or the length of the trench between consecutive drainage structures, shall be left open behind pipe laying, whichever distance is greater. In no instance shall any trench be left open for more than 24 hours before backfilling is accordance with these specifications.

3.2 BACKFILLING

- A. Trenches shall be backfilled from the bottom of the trench to the centerline of the pipe with predominantly sandy material free from rocks or stones, placed in six inch layers and compacted to 100 percent of the maximum density, as determined by ASSHTO T-180, using the appropriate equipment, under and on each side of the pipe and between the pipe and wall of trench. Backfilling material shall be deposited in the trench for its full width on each side of the pipe and appurtenances simultaneously.
- B. From the centerline of the pipe, fittings and appurtenances, to an elevation one foot above the top of the pipe, the trench shall be backfilled by hand or by approved mechanical methods. The backfill material shall be as specified in I, above, and shall be consolidated by puddling with water or by use of tampers. In areas where there are no paved or hard surfaced roads where settlement is unimportant, the Contractor may backfill the trench from an elevation one foot above the pipe to the top of the trench with the excavated materials and shall be neatly rounded over the trench area of a sufficient height to allow for settlement to grade after consolidation.
- C. Under Pavement
 - 1. Where the excavation is made through pavements or in areas to be paved, curbs, driveways or sidewalks, or where such structures are undercut by the excavation, the entire backfill to the subgrade of the

pavement or structures shall be made with predominantly sandy material free from rocks passing 3 1/2 inch ring will be permitted in the backfill between the elevation one foot above the top of the pipe and bottom of the pavement.

2. The entire backfill material, including the material placed around and one foot above the pipe shall be compacted to a density of not less than 95 percent of the maximum density, as determined by ASSHTO T-1 80. Compaction shall be done by means of rapid striking mechanical tampers or other approved methods.

- E. Unless specifically authorized by the Architect, all pipe shall be laid in the dry, and the Contractor shall do such pumping as is required for proper execution of the work and to dispose of the water without damage or undue convenience to the work, the surrounding area, or the public. He shall not dam, divert or cause water to flow in excess in existing gutters, pavements or other structures, and to this end may be required to conduct the water to a suitable place of discharge. Wellpoint system or other approved equipment shall be used to maintain excavations in a dry condition for pipe laying.

END OF SECTION

SECTION 03300

CAST-IN-PLACE CONCRETE

PART 1 – GENERAL

- 1.1 SUMMARY: Cast-in-place concrete work, complete, unless otherwise specified. Provide reinforcing steel, dowels, chairs, and accessories as specified for concrete work. Furnish reinforcing steel bars for masonry work and tie bars after they are in place.
- 1.2 RELATED WORK SPECIFIED IN OTHER SECTIONS:
- A. Excavation and filling for sitework, concrete paving; Division 2.
 - B. Excavation and filling for structure; Section 02222.
 - C. Soil treatment for termite control; Section 02280.
 - D. Structural Drawings.
 - E. Joint sealants; Section 07900.
- 1.3 SUBMITTALS: Comply with Section 01300.
- A. Product Data: Submit manufacturer's product data for reinforcement and forming accessories, admixtures, patching compounds, curing compounds, and other as requested by Architect.
 - B. Shop Drawings: Submit, prior to installation, shop drawings of reinforcing steel, including bar cutting lists, typical bar bend diagrams, construction of forms including jointing, reveals, location and pattern of form tie placement, and construction joint schedule with details.
 - C. Design Mix: Prior to placement of concrete, submit concrete mix designs proposed by the concrete supplier, for class of concrete, including recent test results substantiating the quality of concrete produced by each mix.
 - D. Reports: Weekly reports of all compression, slump, and air content tests from the testing laboratory.
- 1.4 QUALITY ASSURANCE:
- A. Codes And Standards: Comply with the provisions of the following codes, specifications and standards, except where more stringent requirements are indicated or specified, and except as accepted or directed by Architect during unusual climatic conditions.
 - 1. ACI 301 "Specifications for Structural Concrete for Buildings."

2. ACI 318 "Building Code Requirements for Reinforced Concrete."
 3. CRSI "Manual of Standard Practice."
- B. Local Codes and Ordinances: Wherever provisions of the Standard Building Code or the local current ordinances are more stringent than the above specifications and standards, the local codes and ordinances shall govern.
- C. Concrete Testing Service: Engage a testing laboratory acceptable to Owner and Architect to perform material evaluation tests and to design concrete mixes.
1. Tests, including retesting of rejected materials for installed work, shall be paid for by the Contractor. Testing requirements are specified in FIELD SAMPLING AND TESTING paragraph.

PART 2 - PRODUCTS

2.1 FORM MATERIALS:

- A. Forms For Exposed Finish Concrete: Plywood, metal, metal-framed plywood faced, or other acceptable panel-type materials, to provide continuous, straight, smooth, exposed surfaces.
- B. Forms For Unexposed Finish Concrete: Use plywood, lumber, metal or other acceptable material. If lumber is used, it must be dressed on at least 2 edges and 2 sides for a tight fit.
- C. Form Coatings: Commercial formulation form coating compound with maximum VOC of 350 mg/l that will not bond with, stain, nor adversely affect concrete surfaces, will not impair subsequent treatments of concrete surfaces.
- D. Form Ties: Factory-fabricated, adjustable-length, removable or snap-off metal form ties, designed to prevent form deflection and to prevent spilling concrete upon removal. Provide units that will leave no metal closer than 1-1/2" to exposed surface.
1. Provide ties that, when removed, will leave holes not larger than 1" diameter in concrete surface.

2.2 REINFORCING MATERIALS:

- A. Reinforcing Bars: ASTM A 615(S1), Grade 60, deformed billet steel bars of grades indicated on structural drawings, free from loose rust, scale and other coatings that may reduce bond.
- B. Mesh or Fabric Reinforcement ASTM A 185, welded wire fabric, of sizes and types as indicated on drawings.
- C. Supports For Reinforcement: Bolsters, chairs, spacers, and other devices necessary for properly spacing, supporting, and fastening reinforcement in place.

1. For slabs-on-grade, use supports with sand plates or horizontal runners where base material will not support chair legs.
2. For exposed-to-view concrete surfaces, where legs of supports are in contact with forms, provide supports with legs that are plastic protected (CRSI, Class 1) or stainless steel protected (CRSI, Class 2).
3. For footings, support-reinforcing steel with wire, metal chairs, bolters or other approved device; do not use bricks or stones.

2.3 CONCRETE MATERIALS:

- A. Portland Cement: ASTM C 150, Type I.
- B. Normal Weight Concrete Aggregates: ASTM C 33, and as specified. Provide aggregates from a single source for exposed concrete.
 1. Fine Aggregate: Clean, sharp, natural or manufactured sand, free from loam, clay, lumps, or other deleterious substances.
 2. Coarse Aggregate: Clean, uncoated, processed, locally available aggregate, containing no clay, mud, loam or foreign matter; maximum size of 1-1/2" at foundations and 1" at slabs.
- C. Water: Potable.
- D. Admixtures:
 1. Air Entrained Admixture: ASTM C 260.
 2. Other Admixtures: Do not use other admixtures unless accepted by Architect; added chlorides will not be accepted.
- E. Miscellaneous Materials:
 1. Connectors: Provide metal connectors required for placement in cast-in-place concrete, for the attachment of structural and non-structural members.
 2. Vapor Barrier: Polyethylene film, **0.010"** thick (minimum .02656 lbs. per sq. ft. and $5.71 \pm 3\%$ per 20' X 100' roll); Visqueen or approved equal.
 3. Expansion Joint Filler: ASTM D 1751, non-extruding premoulded material, 1/2" thick, unless otherwise noted, composed of fiberboard impregnated with asphalt.
 4. Absorptive Cover: Burlap cloth made from jute or kenaf, weighing approximately 9 oz. per sq. yd. complying with AASHTO M 182, Class 2.
 5. Moisture-Retaining Cover: One of the following, complying with ASTM C 171; waterproof paper, polyethylene film, polyethylene-coated burlap.

6. Liquid Membrane-Forming Curing Compound: ASTM C 309, Type I, Class A. Moisture loss not more than 0.055 gr./sq. cm. When applied at 200 sq. ft./gal. Conspec "Cure & Seal", L & M "Dress & Seal", Sonneborn "Kure-N-Seal", Euclid "Eurocure", Master Builders "Masterkure", W. R. Meadows "Sealtight CS-309", or approved equal.
7. Non-Shrink Grout: CR0-C 621, factory pre-mixed grout.
 - a. Non-Metallic Shrinkage-Resistant Grout: Conspec "100 Non-Shrink Grout (Non-Metallic)", Euclid "Euco N.S.", L & N "Crystex", Master Builders "Masterflow 713", W. R. Meadows "Sealtight CG-86 Grout", or approved equal.
8. Bonding Agent: Polyvinyl acetate or acrylic base.
 - a. Polyvinyl Acetate (Interior Only): Euclid "Euco Weld", L & M "Everweld", or approved equal.
 - b. Acrylic or Styrene Butadiene: Conspec "Strongbond", Euclid "SBR Latex", L & M "Everbond", Master Builders "Acryl-Set", Sonneborn "Sonocrete", or approved equal.
9. Epoxy Adhesive: ASTM C 881, two-component material suitable for use on dry or damp surfaces. Provide material type, grade, and class to suit project requirements.
 - a. Conspec "Spec-Bond 100", Euclid "Euco Epoxy System #452 or #620", L & M "Epabond", Master Builders "Concresive Standard Liquid", or approved equal.
10. Concrete Sealer: R. Meadows "Sealtight Acrylic Concrete Sealer", Sonneborn "Son-No-Mar", Euclid "Eucopoxy I", L & M "Super Seal #35", or approved equal.

2.4 PROPORTIONING OF MIXES:

- A. Concrete minimum ultimate strength at 28 days; refer to structural drawings.
- B. Mix Designs:
 1. Prepare design mixes for each type of concrete, in accordance with ACI 301 and ACI 318.
 2. Proportion design mixes by weight for class of concrete required, complying with ACI 211.
- C. Adjustment to Concrete Mixes: Mix design adjustments may be requested by Contractor when characteristics of materials, job conditions, weather, test results, or other circumstances warrant, as approved by Architect. Laboratory test data for revised mix design and strength results must be submitted to and approved by Architect before using in work.

- D. Provide test results from the concrete supplier for proposed design mix, to establish the following:
 - 1. Gross weight and yield per cu. yd of trial mixtures.
 - 2. Measured slump.
 - 3. Measured air content.
 - 4. Compressive strength developed at 7 days and 28 days, from not less than 3 test cylinders cast for each 7 and 28-day test, and for each design mix.
 - E. Submit written reports to Architect for design mixes at least 15 calendar days prior to the start of work.
- 2.5 ADMIXTURES: Use air-entrained admixture in strict compliance with manufacturer's directions at all concrete exposed to weather.
- 2.6 SLUMP LIMITS: 4" Design Slump ± 1 " for 3000 psi concrete, 6" Design Slump ± 1 " for 4000 psi concrete
- 2.7 BATCHING AND MIXING: Concrete may be ready-mixed or job-mixed at the Contractor's option, in accordance with the governing building code and with the referenced ACI 318. No hand mixing allowed.
- A. Job-Site Mixing:
 - 1. Mix materials for concrete in appropriate drum-type batch machine mixer. For mixers of one cu. yd. or smaller capacity, continue mixing at least 1-1/2 minutes, but not more than 5 minutes after ingredients are in mixer, before any part of batch is released. For mixers of capacity larger than one cu. yd., increase minimum 1-1/2 minutes of mixing time by 15 seconds for each additional cu. yd. or fraction thereof.
 - 2. Provide batch ticket for each batch discharged and used in work, indicating project identification name and number, date, mix type, mix time, quantity, and amount of water introduced.
 - B. Ready-Mix Concrete:
 - 1. Comply with requirements of ASTM C 94, and as specified.
 - 2. When air temperature is between 85°F and 90°F, reduce mixing and delivery time from 1-1/2 hours to 75 minutes, and when air temperature is above 90°F, reduce mixing and delivery time to 60 minutes.

PART 3 - EXECUTION

3.1 FORM WORK:

- A. Coordinate installation of joint materials, vapor barrier/retarder, and other related materials with placement of forms and reinforcing steel.
- B. Design, erect, support, brace, and maintain formwork to support vertical and lateral loads, and static and dynamic loads that might be applied until such loads can be supported by the concrete structure. Construct formwork so concrete members and structures are of correct size, shape, alignment elevations, and position.
- C. Construct forms in accordance with ACI 347, to sizes, shapes, lines and dimensions indicated, and to obtain accurate alignment, location, grades, level and plumb work in finished structures. Provide for openings, offsets, sinkages, keyways, recesses, molding, rustications, reglets, chamfers, blocking, screeds, bulkheads, anchorages and inserts, and other features required in work. Solidly butt joints and provide back-up at joints to prevent leakage of cement paste.
- D. Fabricate forms for easy removal without hammering or prying against the concrete surfaces. Provide crush plates or wrecking plates where stripping may damage cast concrete surfaces.
- E. Provide temporary openings where interior area of formwork is inaccessible for cleanout, for inspection before concrete placement, and for placement of concrete. Securely brace temporary openings and set tightly to forms to prevent loss of concrete mortar. Locate temporary openings on forms at inconspicuous location.
- F. Chamfer exposed corners and edges 3/4" unless otherwise indicated, using wood, metal, PVC or rubber chamfer strips fabricated to produce uniform smooth lines and tight edge joints.
- G. Preparation of Form Surfaces: Coat the contact surfaces of forms with a form-coating compound where applicable before reinforcement is placed.
- H. Provisions for Other Trades: Provide openings in concrete formwork to accommodate work of other trades. Determine size and location of openings, recesses, and chases from trades providing such ties. Accurately place and securely support items built in to form.
- I. Cleaning and Tightening: Thoroughly clean forms and adjacent surfaces to receive concrete. Remove chips, wood, sawdust, dirt or other debris just before concrete is placed. Retighten forms after concrete placement, if required, to eliminate mortar leaks.

3.2 VAPOR BARRIER INSTALLATION:

- A. Following leveling and tamping of granular base for slabs-on-grade, place vapor barrier sheeting in position with longest dimension parallel with direction of pour.
- B. Lap joints 6" and seal with manufacturer's recommended mastic or pressure-sensitive tape.

3.3 PLACING REINFORCEMENT:

- A. Comply with the Concrete Reinforcing Steel Institute (CRSI) recommended practice for "Placing Reinforcing Bars" for details and methods of reinforcement placement and supports, and as herein specified.
 - 1. Avoid cutting or puncturing vapor barriers during reinforcement placement and concreting operations.
- B. Clean reinforcement of loose rust, mill scale, dirt, and other materials or coatings, which reduce or destroy bond with concrete.
- C. Accurately position, support, and secure reinforcement against displacement. Locate and support reinforcing by metal chairs, runners, bolsters, spacers, and hangers as required.
- D. Place reinforcement to obtain minimum coverages indicated, or if not indicated, in compliance with CRSI. Arrange, space, and securely tie bars and bar supports to hold reinforcement in position during concrete placement operations. Set wire ties so ends are directed into concrete, not toward exposed concrete surfaces.
- E. Do not place bars more than 2" beyond the last leg of continuous support. Do not use supports to hold runways for conveying equipment.
- F. Install mesh welded wire fabric reinforcement in as long lengths as practicable, lapping pieces at least one mesh plus 2" but in no case less than 8". Lace splices with wire. Offset end laps to prevent continuous laps in either direction. Lift mesh to middle third of slab by use of hooks.

3.4 JOINTS AND INSERTS:

- A. Joints: Provide construction and expansion joints. Locate and install joints, which are not shown on the drawings, so as not to impair the strength and appearance of structure. Submit joint schedule and details to Architect.
- B. Inserts: Set and build into work anchorage devices and other embedded items required for other work that is attached to, or supported by, concrete. Properly locate embedded items in cooperation with other trades, and secure in position before concrete is poured. Use setting drawings, diagrams, instructions, and directions provided by suppliers of items to be attached thereto.

- 3.5 PREPARATION OF FORM SURFACES: Coat contact surfaces of forms with an approved no residual, low-VOC, form-coating compound before reinforcement is placed. Do not allow excess form-coating material to accumulate in forms or to come into contact with in-place concrete surfaces against which fresh concrete will be placed. Apply in compliance with manufacturer's instructions.
- 3.6 CONCRETE PLACEMENT:
- A. Comply with ACI 304, "Recommended Practice for Measuring, Mixing, Transporting, and Placing Concrete", and as herein specified.
 - B. Pre-Placement Inspection: Before placing concrete, clean and inspect formwork, reinforcing steel, and items to be embedded or cast-in. Notify other crafts in ample time to permit the installation of their work, and cooperate with them in setting such work, as required. Make sure soil treatment for termite control has been applied to cushion fill before vapor barrier and concrete are installed. Coordinate the installation of joint materials and vapor barriers with placement of forms and reinforcing steel.
 - C. Notify Architect 48 hours before placing any concrete.
 - D. Conveying: Convey concrete from the mixer to the place of final deposit by methods, which will prevent the separation or loss of materials. Provide equipment for chuting, pumping, and pneumatically conveying concrete of proper size and design as to insure a practically continuous flow of concrete at the point of delivery and without segregation of the materials. Keep open troughs and chutes clean and free from coatings of hardened concrete. Do not allow concrete to drop freely more than 10 feet. All equipment and methods used for conveying are subject to the approval of Architect.
 - E. Depositing: Deposit concrete continuously or in layers of such thickness that no concrete will be placed on hardened concrete so as to cause seams or planes of weakness. If a section cannot be placed continuously, provide construction joints as specified. Deposit concrete near or in its final location to avoid segregation due to rehandling or flowing, and displacement of the reinforcement.
 - F. Placing Concrete In Forms: Deposit concrete in forms in horizontal layers not deeper than 24" and in a manner to avoid inclined construction joints. Where placement consists of several layers, place each layer while preceding layer is still plastic to avoid cold joints.
 - 1. Consolidate placed concrete by mechanical vibrating equipment supplemented by hand-spading, rodding, or tamping. Use equipment and procedures for consolidation of concrete in accordance with ACI 309.

2. Do not use vibrators to transport concrete inside forms. Insert and withdraw vibrators vertically at uniformly spaced locations not farther than visible effectiveness of machine. Place vibrators to rapidly penetrate placed layer and at least 6 inches into preceding layer. Do not insert vibrators into lower layers of concrete that have begun to set. At each insertion limit duration of vibration to time necessary to consolidate concrete and complete embedment of reinforcement and other embedded items without causing segregation of mix.
- G. Placing Concrete Slabs: Deposit and consolidate concrete slabs in a continuous operation, within limits of construction joints, until the placing of a panel or section is completed.
1. Consolidate concrete during placing operations so that concrete is thoroughly worked around reinforcement and other embedded items and into corners.
 2. Bring slab surfaces to correct level with straightedge and strike off. Use bull floats or derbies to smooth surface, free of humps and hollows. Do not disturb slab surfaces prior to beginning finishing operations.
 3. Maintain reinforcing in proper position during concrete placement.
- H. Cold Weather Placing: Comply with the requirements of ACI 306 and as follows:
1. Protect concrete work from physical damage and reduced strength that could be caused by frost, freezing actions, and low temperatures.
 2. When air temperature has fallen to or is expected to fall below 40°F, uniformly heat water and aggregates before mixing to obtain a concrete mixture temperature of not less than 50°F and not more than 80°F at point of placement.
 - a. Do not use frozen materials or materials containing ice or snow. Do not place concrete on frozen subgrade or on subgrade containing frozen materials.
 - b. Do not use calcium chloride, salt, and other materials containing antifreeze agents or chemical accelerators unless otherwise accepted for mix designs.
- I. Hot Weather Placing: When hot weather conditions exist that would seriously impair quality and strength of concrete, place concrete in compliance with the requirements of ACI 305 and as follows:

1. Cool ingredients before mixing to maintain concrete temperature at time of placement below 90°F. Mixing water may be chilled, or chopped ice may be used to control temperature provided water equivalent of ice is calculated to total amount of mixing water. Use of liquid nitrogen to cool concrete is Contractor's option.
2. Cover reinforcing steel with water-soaked burlap if it becomes too hot, so that steel temperature will not exceed the ambient air temperature immediately before embedment in concrete. Fog-spray forms, reinforcing steel, and subgrade just before concrete is placed.
3. When acceptable to Architect, and when required by high temperatures, low humidity, or other adverse placing conditions, use approved water—reducing retarding admixture.

3.7 FINISH OF FORMED SURFACES:

- A. Rough Form Finish: For formed concrete surfaces not exposed-to-view in the finish work or by other construction, unless otherwise indicated. This is the concrete surface having texture imparted by form facing material used, with tie holes and defective areas repaired and patched and fins and other projections exceeding 1/4" in height rubbed down or chipped off.
- B. Smooth Form Finish: For formed concrete surfaces exposed-to-view, or that are to be covered with a coating material applied directly to concrete, or a covering material applied directly to concrete, such as waterproofing, damp-proofing, painting or other similar system. This is as-cast concrete surface obtained with selected form facing material, arranged orderly and symmetrically with a minimum of seams. Repair and patch defective areas with fins or other projections completely removed and smoothed.
- C. Related Unformed Surfaces: At tops of walls, horizontal offsets, and similar unformed surfaces occurring adjacent to formed surfaces, strike-off smooth and finish with texture matching adjacent formed surfaces. Continue final surface treatment of formed surfaces uniformly across adjacent unformed surfaces unless otherwise indicated.

3.8 SLAB FINISHES:

- A. Float Finish:
 1. Apply float finish to slab surfaces to receive trowel finish, and other finishes specified.

2. After screeding, consolidating, and leveling concrete slabs, do not work surface until ready for floating. Begin floating when surface water has disappeared, or when concrete has stiffened sufficiently to permit operation of power-driven floats, or both. Consolidate surface with power-driven floats or by hand-floating if area is small or inaccessible to power units. Finish surfaces to tolerances of F(f) 18 (floor flatness) and F(l) 15 (floor levelness) measured according to ASTM E 1155. Cut down high spots and fill low spots. Uniformly slope surfaces to drains. Immediately after leveling, refloat surface to uniform, smooth, granular texture.
- B. Trowel Finish:
1. Apply where exposed-to-view, and where slab surfaces are to be covered with resilient flooring, carpet, ceramic tile, paint, or other thin film finish coating system.
 2. After floating, begin first trowel finish operation using a power-driven trowel. Begin final troweling when surface produces a ringing sound as trowel is moved over surface. Consolidate concrete surface by final hand-troweling operation, free of trowel marks, uniform in texture and appearance, and finish surfaces to tolerances of F(f) 20 (floor flatness) and F(l) 17 (floor levelness) measured according to ASTM E 1155. Grind smooth surface defects, which would telegraph through applied, floor covering.
- C. Trowel And Fine Broom Finish: Where ceramic tile is to be installed with thin-set mortar, apply trowel finish as specified, then immediately follow with slightly scarifying surface by fine brooming.
- D. Non-Slip Broom Finish: At exterior walks and other locations indicated; specified in Division 2.
- E. Concrete Sealer: Apply in compliance with manufacturer's instructions.
- F. Concrete Stain And Color Sealer: Apply in compliance with manufacturer's instructions, including preparation of concrete slab; match approved sample.

3.9 CONCRETE CURING AND PROTECTION:

- A. General: Protect freshly placed concrete from premature drying and excessive cold or hot temperatures; maintain concrete above 50°F. Start initial curing as soon as free water has disappeared from concrete surface after placing and finishing. Weather permitting; keep continuously moist for not less than 7 days. Begin final curing procedures immediately following initial curing and before concrete has dried. Continue final curing for at least 7 days in accordance with ACI 301 procedures. Avoid rapid drying at end of final curing period.

- B. Curing Methods: Perform curing of concrete by curing and sealing compound, by moist curing, by moisture-retaining cover curing, and by combinations thereof, as specified.
1. Provide moisture curing by keeping concrete surface continuously wet by covering with water, by water-fog spray, or by covering concrete surface with specified absorptive cover, thoroughly saturating cover with water and keeping continuously wet. Place absorptive cover to provide coverage of concrete surfaces and edges, with 4" lap over adjacent absorptive covers.
 2. Provide moisture-cover curing by covering concrete surface with moisture-retaining cover for curing concrete, placed in widest practicable width with sides and ends lapped at least 3" and sealed by waterproof tape or adhesive. Immediately repair any holes or tears during curing period using cover material and waterproof tape.
 3. Provide curing and sealing compound on interior slabs left exposed; and to exterior slabs, walks, and curbs, as follows:
 - a. Apply specified curing and sealing compound to concrete slabs as soon as final finishing operations are complete (within 2 hours). Apply uniformly in continuous operation by power-spray or roller in accordance with manufacturer's directions. Recoat areas subjected to heavy rainfall within 3 hours after initial application. Maintain continuity of coating and repair damage during curing period.
 - b. Use membrane curing compounds that will not affect surfaces to be covered with finish materials applied directly to concrete.
- C. Curing Formed Surfaces: Cure formed concrete surfaces, including underside of beams, supported slabs, and other similar surfaces, by moist curing with forms in place for full curing period or until forms are removed. If forms are removed, continue curing by methods specified above, as applicable.
- D. Curing Unformed Surfaces: Cure unformed surfaces, such as slabs, floor toppings, and other flat surfaces by application of appropriate curing compound. Final cure concrete surfaces to receive finish flooring by moisture-retaining cover, unless otherwise directed.

3.10 REMOVAL OF FORMS:

- A. Formwork not supporting weight of concrete, such as sides of beams, walls, columns, and similar parts of work, may be removed after cumulatively curing at not less than 50°F for 24 hours after placing concrete, provided concrete is sufficiently hard to not be damaged by form-removal operations, and provided curing and protection operations are maintained.

- B. Formwork supporting weight of concrete, such as beam soffits, joists, slabs, and other structural elements, may not be removed in less than 14 days and until concrete has attained at least **75%** of design minimum compressive strength of in-place concrete by testing field-cured specimens representative of concrete location or members.
- 3.11 REUSE OF FORM:
- A. Clean and repair surfaces of forms to be reused in work. Split, frayed, delaminated or otherwise damaged form material will not be acceptable for exposed surfaces. Apply new form-coating compound as specified for new formwork.
 - B. When forms are extended for successive concrete placement, thoroughly clean surfaces, remove fins and laitance, and tighten ferns to close joints. Align and secure joint to avoid offsets. Do not use "patched" forms for exposed concrete surfaces except as acceptable to Architect.
- 3.12 MISCELLANEOUS ITEMS: Fill in holes and openings left in concrete for the passage of work by other trades after their work is in place. Mix, place, and cure concrete to blend with in-place construction. Provide all other miscellaneous concrete filling required to complete work.
- 3.13 CONCRETE SURFACE REPAIRS:
- A. Repair and patch defective areas with cement mortar of the same type and class as the original concrete, immediately after removal of forms. Cut out honeycomb, rock pockets, voids over 1/2" diameter, and holes left by tie rods and bolts, down to solid concrete but in no case to a depth of less than 1". Make edges of cuts perpendicular to the concrete surface, before placing cement mortar in the same manner as adjacent concrete. Proprietary patching compounds may be used when acceptable to Architect.
 - 1. Smooth, Exposed-To-View Surfaces: Blend cements so that, when dry, patching mortar will match color of surrounding concrete. Provide test areas at inconspicuous location to verify mixture and color match before proceeding with patching. Compact mortar in place and strike-off slightly higher than surrounding surface.
 - 2. Concealed Formed Surfaces: Repair defects that adversely affect the durability of the concrete. If defects cannot be repaired remove and replace the concrete.
 - 3. Architect may use other repair methods, subject to acceptance.
- 3.14 FIELD SAMPLING AND TESTING:
- A. An independent testing laboratory approved by Owner and Architect will perform the following samples and tests. Refer to paragraph 1.4 C. for responsibility for payment of tests.

B. Samples:

1. Field samples shall be made and cured in accordance with ASTM C 31, for each concrete strength, at the rate of 4 test cylinders and one slump test for each 50 cubic yards of concrete from each day's pour. In accordance with ASTM C 173 Volumetric Method, or ASTM C 231 Pressure Method, make air content check for each set of test cylinders. Air content and slump shall be checked and recorded at both truck discharge and point of placement for pumped concrete from the first load each day.
2. Test cylinders as follows: one at 7 days, two at 26 days, and reserve the remaining for testing after a longer period as required by Architect, if the 28 day tests do not meet the required strength.
3. The taking of samples from small pours of 10 cubic yards or less may be omitted at the discretion of the Architect.
4. Additionally, test slump every 25 cu. yds, recording location for report.
5. When early form removal is requested, field cure cylinders tested at 7 or less days to determine sufficient strength.

C. Testing:

1. Where average strength of any group of 3 cylinders falls below the minimum compressive strength or if individual cylinder falls more than 500 psi below minimum compressive strength specified, the Architect shall have the right to require that test specimens be cut from the structure. Specimens shall be selected by Architect from location in structure represented by test specimen or specimens which failed
2. Specimens shall be secured, prepared, and tested in accordance with ASTM C 42, within a period of 60 days after placing concrete.
3. Concrete shall be considered to meet the strength requirement of this specification if it meets the strength requirements of paragraph 5.6.4 of ACI 318.
4. Should laboratory analysis indicate that the proper concrete mix has not been used by the Contractor, all such concrete poured using the improper mix shall be subject to rejection.
5. The cost of cutting specimens from the structure, patching the 5resulting holes, and making the laboratory analysis shall be borne by the Contractor.

6. The holes from which the cored samples are taken shall be packed solid with no slump concrete proportioned in accordance with the ACI 211 "Recommended Practice for Selecting Proportions of No-Slump Concrete". The patching concrete shall have the same design strength as the specified concrete
 7. If any of the specimens cut from the structure fail to meet the requirements outlined in paragraph 5.6.4 of ACI 318, the Architect shall have the right to require any and all defective concrete to be replaced, and all costs resulting there from shall be borne by the Contractor.
- D. Contractor Sampling: In addition to the slump tests specified above, the contractor shall keep a cone (mold) and rod apparatus on the job site for random testing of batches. When concrete does not meet the specified slump requirements, and when directed by the Architect, immediately perform a slump test in accordance with ASTM C 143. Concrete not meeting the slump requirements shall be removed from the job site.
- 3.15 PROTECTION:
- A. No wheeling, working, or walking on finished surfaces will be allowed for 16 hours after the concrete is placed
 - B. Provide plywood or other acceptable protective cover at all traffic areas throughout the job.
 - C. Protect exposed concrete floors, steps, and walks from paint and other materials or equipment, which may mar or damage these surfaces.
- 3.16 CLEAN-UP: Do not allow debris to accumulate. Clean up all concrete and cement materials, equipment and debris upon completion of any portion of the concrete work, and upon completion of entire cast-in-place concrete work.

END OF SECTION

SECTION 06100

ROUGH CARPENTRY

PART 1 - GENERAL

- 1.1 SUMMARY: Carpentry work, and installation of items specified in other sections which are normally installed by the carpenters. In general, this work includes, but is not limited to, the following:
- A. Concealed framing, studs, furring.
 - B. Braces, stripping, backing, blocking, cants, grounds, and nailers indicated or necessary to install toilet room accessories, and to receive or back work of other trades.
- 1.2 QUALITY ASSURANCE:
- A. Grading Marks: Factory—mark each piece of lumber and plywood with type, grade, mill and grading agency identification; and submit mill certificate that material has been inspected and graded in accordance with requirements if it cannot be marked on a concealed surface.
 - B. Wood Preservative Treatment: Label each piece of pressure treated lumber with the Quality Control mark of the American Wood Preservers Bureau showing compliance with the appropriate standard.
- 1.3 PRODUCT HANDLING: Keep carpentry materials dry during delivery, storage and handling. Store lumber in stacks for air circulation within stacks. Protect bottom of stacks against contact with damp surface. Protect exposed materials against weather. Do not store dressed or treated lumber or plywood outdoors.

PART 2 — PRODUCTS

- 2.1 SOFTWOOD: Comply with the standards of SPIB "Standard Grading Rules for Southern Pine Lumber" for southern pine lumber or WLCIB "Standard Grading Rules for West Coast Lumber" for Douglas fir and Western Red Cedar.
- A. For light framing 2" to 4" thick, 2" to 4" wide, use KD, S4S, Construction Grade.
 - B. For structural lumber 2" to 4" thick, 5" and wider, use KD, S4S, No. 2.
 - C. For structural light framing 2" to 4" thick, 2" to 4" wide, and studs, use KD, S4S, No. 2

- 2.2 ROUGH HARDWARE: Nails, metal connectors, bolts, nuts, screws, washers, staples, and other fasteners (except as specified or noted otherwise); hot-dip galvanized steel
- 2.3 WOOD PRESERVATIVE TREATMENTS:
- A. Pressure treat above-ground items with water-borne preservatives to comply with AWPB-LP-2. After treatment, kiln-dry lumber to a maximum moisture content, of 19 percent. Treat indicated items and the following:
 - 1. Wood sills, sleepers, blocking, furring, stripping and similar concealed members in contact with masonry and concrete.
 - 2. Wood framing members less than 18" above grade.
 - 3. Wood floor plates installed over concrete slabs directly in contact with earth.
 - B. Complete fabrication of treated items prior to treatment, where possible. If cut after treatment, coat cut surfaces with heavy brush coat of same chemical used for treatment and to comply with AWPA M4.

PART 3 — EXECUTION

- 3.1 INSTALLATION, GENERAL:
- A. Discard units of material with defects which might impair quality of work, and units which are too small to use in fabricating work with minimum joints or optimum joint arrangement.
 - B. Set carpentry work to required levels and lines, with members plumb and true to line and cut and fitted.
 - C. Securely attach carpentry work to substrate by anchoring and fastening as indicated and as required by recognized standards. Countersink nail heads on exposed carpentry work and fill holes.
 - D. Use common wire nails, except as otherwise indicated or specified. Use finishing nails for finish work. Select fasteners of size that will not penetrate members where opposite side will be exposed to view or will receive finish materials. Make tight connections between members. Install fasteners without splitting of wood; predrill as required.
 - E. Anchor carpentry work to anchorage devices or blocking built-in or directly attached to substrates. Secure to grounds, strips, backing, and blocking, of thickness and shape required to secure work and equipment in place, as indicated on the drawings or required by conditions. Fasten wood grounds, furring and other

engaging woodwork to various types of walls with approved types and sizes of nails, ties, and inserts, spaced to provide rigid secure supports.

- 3.2 ROUGH CARPENTRY: Provide wood grounds, strips, bucks, plates, backing, and blocking, of thickness and shape required to secure work and equipment in place, as indicated on drawings or required by conditions. Fasten with approved types and sizes of nails, ties, and inserts, spaced to provide rigid secure supports.
- 3.3 ROUGH HARDWARE: Provide rough hardware necessary or required for installation of work specified. Use sufficient size and number of spikes, nails, screws, bolts, etc., to insure rigidity, security, and permanence.
- 3.4 CLEAN—UP: Remove from the premises all rubbish, debris, and unused materials which may be accumulated during the progress of the work.

END OF SECTION

SECTION 07210

BUILDING INSULATION

PART 1 - GENERAL

- 1.1 SUMMARY: Building insulation, complete, except as otherwise specified.
- 1.2 SUBMITTALS:
- A. Comply with Section 01300.
 - B. Submit manufacturer's installation instructions for each type of insulation. Include data substantiating that materials comply with physical and thermal properties, and other requirements of specified insulation.
- 1.3 PRODUCT HANDLING: Do not allow insulation materials to become wet or soiled. Comply with manufacturer's instructions for handling, storage, and protection during installation.
- 1.4 JOB CONDITIONS: Do not proceed with the installation of insulation until the work which follows (and which conceals the insulation) is scheduled to follow immediately.
- 1.5 QUALITY ASSURANCE:
- A. Concealed insulation shall have flamespread rating of not more than 75 and smoke developed rating not more than 450.
 - B. Exposed insulation shall have flamespread rating of not more than 25 and smoke developed rating not more than 450.
 - C. Foam Insulation: Edge or face of each piece of insulation shall bear label of an approved agency. Label shall contain manufacturer's or distributor's identification, model number, serial number or definitive information describing the products or materials performance characteristics and approved agency's identification.
- 1.6 COORDINATION: Coordinate work with work of other trades.

PART 2 - PRODUCTS

- 2.1 BATT INSULATION: 5.5" (R=19) and 3.5" (R=13), as indicated, vinyl faced fiberglass batts; OCF, Manville, Certainteed or equal. Provide other thicknesses as indicated on drawings.
- 2.2 ACOUSTIC INSULATION: 3.5 inch sound batts as shown on plans.

2.3 PERIMETER INSULATION: Vinyl backed batt insulation

2.4 MISCELLANEOUS MATERIALS:

- A. Provide adhesive for bonding insulation, mechanical fasteners, tapes, netting, and other items indicated and required for complete installation, as indicated and as recommended by the insulation manufacturer or as required by project conditions.
- B. Attic ventilation baffles installed at roof eave to contain insulation and allow ventilation from the soffits to the attic.

PART 3 - EXECUTION

3.1 INSTALLATION: Comply with manufacturer's instructions.

- A. Extend insulation full thickness over entire surface to be insulated. Cut and fit tightly around obstructions and fill voids with insulation.
- B. Securely install batt insulation in cavities, between studs, and elsewhere as indicated. Butt ends of batts closely together and fill all voids.
- C. Tape joints where required by project conditions.
- D. Install polystyrene attic/rafter vents prior to the installation of attic insulation to prevent insulation from covering the soffit vents and restricting ventilation airflow.

END OF SECTION

SECTION 07900

JOINT SEALANTS

PART 1 - GENERAL

- 1.1 SUMMARY: Completely close with sealant all joints. Include joints around frames of doors, flooring joints, joints at penetrations of walls, decks, and floors by piping and other services and equipment, joints between items of equipment and other construction, and other joints indicated or specified to be sealed.
- 1.2 RELATED WORK SPECIFIED IN OTHER SECTIONS:
- A. Aluminum Storefront and Framing; Section 08410.
 - B. Glazing; Section 08800.
- 1.3 QUALITY ASSURANCE: Obtain elastomeric materials only from manufacturer who will, if required, send a qualified technical representative to project site, for the purpose of advising the installer of proper procedures and precautions for the use of the material.
- 1.4 SUBMITTALS: Comply with Section 01300.
- A. Product Data: Submit manufacturer's specifications, recommendations, and installation instructions for each type of sealant, calking compound and miscellaneous materials. Include letter of certification, or certified test laboratory reports indicating that each material complies with the requirements and is intended for the applications indicated.
 - B. Samples: Submit 12" long sample of each color required (except black) for each type of sealant exposed to view. Samples will be viewed for color only.
- 1.5 JOB CONDITIONS:
- A. Examine joint surfaces, backing, and anchorage of units forming sealant rabbet. Do not proceed with work until unsatisfactory conditions have been corrected.
 - B. Do not proceed with installations of sealants under adverse weather conditions, or when temperatures are above or below manufacturer's recommended limitations for installation. Proceed with the work only when forecasted weather conditions are favorable for proper cure and development of high early bond strength.

PART 2 - PRODUCTS

2.1 MATERIALS:

- A. Compatibility: Provide joint sealers, joint fillers and other related materials that are compatible with one another and with joint substrates under conditions of service and application, as demonstrated by testing and field experience.
- B. Provide in colors as selected by Architect from manufacturer's standard colors.

2.2 ELASTOMERIC JOINT SEALANTS: Provide manufacturer's standard chemically curing, elastomeric sealant of base polymer indicated with complies with ASTM C 920 requirements, including those for Type, Grade Class, and Uses.

- A. Two-Or-More Component Nonsag Urethane Sealant: Type M, Grade NS, Class 25. Tremco "Dymeric", Sonneborn "Sonolastic NP 2", Bostik "Chem—Calk 500", or Pecora "Dynatrol II".
- B. Two—Component Pourable Urethane Sealant: Type M, Grade P, Class 25. Tremco "THC 900", Sonneborn "Sonolastic Paving Joint Sealant", Woodmont "Chem—Calk 550", or Pecora "NR—200 Urexpan".
- C. Low Modulus Nonacid Curing Silicone Sealant: Type S, Grade NS, Class 25. Dow Corning; 790.
- D. One-Component Mildew—Resistant Silicone Sealant: Type S, Grade NS. Class 25. GE "SCS 1702", Dow Corning "786", Tremco "Proglaze White", or Pecora "863 #345".

2.3 ACRYLIC EMULSION SEALANT: One component, nonsag, acrylic, paintable, mildew—resistant, complying with ASTM C 834.

- A. Tremco "Acrylic Latex Caulk", Sonneborn "Sonolac", Pecora Corp. "AC—20", Bostik "Chem—Calk 600".

2.4 MISCELLANEOUS MATERIALS:

- A. Joint Cleaner: Type of joint cleaning compound recommended by sealant manufacturer for joint surfaces to be cleaned.
- B. Joint Primer/Sealer: Type recommended by the sealant manufacturer for the joint surfaces to be primed or sealed.
- C. Bond Breaker Tape: Polyethylene tape or other plastic tape as recommended by sealant manufacturer, to be applied to sealant-contact surfaces where bond to the substrate or joint filler must be avoided for proper performance of sealant. Provide self-adhesive tape wherever applicable.

- D. Sealant Backer Rod: Compressible rod stock open cell polyurethane foam. Provide size and shape of rod, which will control joint depth for sealant placement, break bond of sealant at bottom of joint, form optimum shape of sealant bead on back side, and provide a highly compressible backer to minimize the possibility of sealant extrusion when joint is compressed.

PART 3 - EXECUTION

3.1 JOINT TYPES AND USAGES:

- A. Acrylic Emulsion Sealant: All interior joints except joints with metal, aluminum, ceramic tile and wet work.
- B. Urethane Sealants:
 - 1. All interior joints with aluminum or metal.
 - 2. Use minimum 35 Shore A hardness urethane sealant for horizontal joints subject to pedestrian and vehicular traffic.
- C. Silicone Sealants:
 - 1. At contractor's option, low modulus silicone sealant may be used in lieu of urethane sealant.
 - 2. Use mildew resistant silicone sealant at wet work, at ceramic tile, sinks, and plumbing fixtures.

3.2 JOINT SURFACE PREPARATION:

- A. Clean joint surfaces immediately before installation of sealant. Remove dirt, insecure coatings, moisture, and other substances which

3.3 INSTALLATION: Comply with sealant manufacturer's printed instructions, except where more stringent requirements are indicated or specified and except where manufacturer's technical representative directs otherwise.

- A. Prime or seal the joint surfaces wherever shown or recommended by the sealant manufacturer. Do not allow primer/sealer to spill or migrate onto adjoining surfaces.
- B. Install sealant backer rod for liquid elastomeric sealants, except where shown to be omitted or recommended to be omitted by sealant manufacturer for the application shown.
- C. Install bond breaker tape wherever shown and wherever required by manufacturer's recommendations to ensure that elastomeric sealants will perform properly.

- D. Employ only proven installation techniques, which will ensure that sealants will be deposited in uniform, continuous ribbons without gaps or air pockets, with complete "wetting" of the joint bond surfaces equally on opposite sides. Except as otherwise indicated, fill sealant rabbet to a slightly concave surface, slightly below adjoining surfaces. Where horizontal joints are between a horizontal surface and a vertical surface, fill joint to form a slight cove, so that joint will not trap moisture and dirt.
 - E. Install sealants to depths as shown or, if not shown, as recommended by the sealant manufacturer but within the following general limitations, measured at the center (thin) section of the bead.
 - 1. For sidewalks and similar joints sealed with elastomeric sealants and subject to traffic and other abrasion and indentation exposures, fill joints to a depth equal to 75% of joint width, but neither more than 5/8" deep nor less than 3/8" deep.
 - 2. For normal moving joints sealed with elastomeric sealants, but not subject to traffic, fill joints to a depth equal to 50% of joint width, but neither more than 1/2" deep nor less than 1/4" deep.
 - 3. For joints sealed with non—elastomeric sealants, fill joints to a depth in the range of 75% to 125% of joint width.
 - F. Do not allow sealants to overflow or spill onto adjoining surfaces. Use masking tape or other precautionary devices to prevent staining of adjoining surfaces, by either the primer/sealer or the sealant.
 - G. Remove excess and spillage of sealants promptly as the work progresses. Clean the adjoining surfaces by whatever means may be necessary to eliminate evidence of spillage, without damage to the adjoining surfaces or finishes.
- 3.3 CURE AND PROTECTION: Cure sealants in compliance with manufacturer's instructions and recommendations, to obtain high early bond strength, internal cohesive strength, and surface durability. Cure and protect sealants in a manner, which will minimize increases in modulus of elasticity and other accelerated aging effects. Replace or restore sealants that are damaged or deteriorated during construction period.

END OF SECTION

SECTION 08110

METAL DOORS AND FRAMES

PART 1 - GENERAL

- 1.1 SUMMARY: Steel frames, hollow metal doors, and related items required to complete work.
- 1.2 RELATED WORK SPECIFIED IN OTHER SECTIONS:
 - A. Furnishing of finish hardware; As shown on drawings.
 - B. Finish painting; Section 09900.
- 1.3 SUBMITTALS: Comply with Section 01300.
 - A. Product Data: Submit copy of manufacturer's technical data and installation instructions.
 - B. Shop Drawings: Prior to fabrication of work, submit shop drawings indicating gage of metals, details of construction, connections to other work, fastenings and anchors.
- 1.4 QUALITY ASSURANCE:
 - A. Provide doors and frames complying with Steel Door Institute "Recommended Specifications: Standard Steel Doors and Frames" (SDI—100), and as specified.
 - B. Provide metal doors and frames manufactured by a single firm.
- 1.5 DELIVERY, STORAGE, AND HANDLING:
 - A. Deliver, handle, and store metal doors and frames in a manner to prevent damage and deterioration.
 - B. Provide packaging such as cardboard or other containers, separators, banding, spreaders, and paper wrappings as required to completely protect metal doors and frames during transportation and storage.
 - C. Store doors upright, in a protected dry area, at least 1" off ground and with at least 1/4" air space between individual pieces. Protect primed and hardware surfaces as required.

PART 2 - PRODUCTS

- 2.1 MANUFACTURERS: Steelcraft is specified; equivalent products of Republic, Ceco, and Curries are acceptable.
- 2.2 MATERIALS:
- A. Steel Sheet:
 - 1. Doors: Full Flush Standard Duty 18 gage, cold rolled, stretcher leveled; free of scale, pitting or other surface defects.
 - 2. Frames: 16 gage (interior) and 14 gage (exterior) hot rolled, pickled and oiled, or cold rolled as specified above.
 - B. Hollow Core: Continuously reinforced with a full core of resin-impregnated kraft fiber honeycomb with 1" nested, hexagonal -shaped cells. Provide insulated doors at exterior.
 - C. Primer: Manufacturer's standard rust inhibitive primer.
 - D. Anchors, Fasteners, Accessories: Manufacturer's standard, hot—dipped galvanized at exterior.
 - E. Channel Fillers: Flush steel for top channel of exterior doors.
- 2.3 FABRICATION:
- A. General:
 - 1. Fabricate steel doors and frames rigid, neat in appearance and free from defects, warp, or buckle. Provide clean cut, straight and true molded members, well formed and aligned miters, dressed and ground smooth, and where applicable, concealed fasteners. Reinforce at corners as required to prevent sagging. Accurately form metal to required sizes and profiles, including astragals.
 - 2. Fit, assemble, and weld units at factory or shop.
 - B. Doors: Seamless construction (no visible seam on face), of sizes and designs as indicated.
 - 1. Astragals: Provide standard Z or T astragal for pairs of exterior doors.
 - C. Frames: Combination stop and frame channel section, rabbeted for doors, of type and styles indicated.
 - 1. Anchors/Fasteners: Supply the proper fastenings and/or anchors to secure frames in each type of structural framing indicated.
 - 2. Silencers/Mutes: Drill stops to receive a minimum of 3 silencers on strike jamb.

- 2.4 **HARDWARE:**
- A. Preparation: Prepare hollow metal units to receive mortised and concealed finished hardware, including cutouts, reinforcing, drilling and tapping, in accordance with final Finish Hardware Schedule and templates provided by the hardware supplier. Reinforce hollow metal units to receive surface—applied hardware. Drilling and tapping for surface—applied hardware will be done on the job site.
 - B. Location of Hardware: Locate finish hardware as indicated in final shop drawings and/or in compliance with Door and Hardware Institute publication "Recommended Location for Builder's Hardware".
- 2.5 **FINISH:** Dress tool marks and surface imperfections to smooth surfaces and remove irregularities. Chemically treat and clean doors and frames. Apply manufacturer's standard baked—on rust inhibitive primer.

PART 3 - EXECUTION

- 3.1 **INSTALLATION:**
- A. Install hollow metal units and accessories in compliance with final shop drawings, manufacturer's instructions, and as specified below.
 - B. Set frames accurately in position, plumb and aligned, and securely anchor to adjacent construction.
 - C. Erect fire rated units in compliance with NEPA 80.
 - D. Clearances: Provide clearances of not more than 1/8" at jambs and heads and not more than 3/4" from floor or 3/16" from thresholds. Undercut doors where noted on door schedule.
 - E. Hardware: Install hardware, adjust as required to provide smooth and proper operation with secure latching or locking.
- 3.2 **PRIME COAT TOUCH-UP:** Immediately after erection, sand smooth any rusted or damaged areas of prime coat and apply touch—up with compatible air—drying primer.

END OF SECTION

SECTION 08800

GLAZING

PART 1 - GENERAL

- 1.1 SUMMARY: Furnish and install all exterior and interior glass and glazing material as required.
- 1.2 QUALITY ASSURANCE:
- A. Provide safety glass (tempered) complying with requirements of ANSI Z97.1 and CPSC 26 CFR 1201 CII.
 - 1. Label each piece of glass designating type and thickness of glass. Do not remove label prior to installation.
 - 2. Permanently identify each unit of tempered glass. Etch or ceramic fire identification on glass; identification shall be visible when unit is glazed.
- 1.3 SUBMITTALS: Comply with Section 01300.
- A. Product Data: Submit copy of manufacturer's specifications and installation instructions for each type of glass and glazing material. Include test data or certification substantiating that glass complies with specified requirements.
- 1.4 PROTECTION: Protect glass surfaces and edges at all times during the construction period. Keep glass free from contamination by materials capable of staining glass.

PART 2 - PRODUCTS

- 2.1 GLASS MATERIALS AND PRODUCTS:
- A. Float Glass: ASTM C 1036, Type I (transparent glass, flat), Quality q3 (glazing select).
 - 1. 1/4" thick, clear single glazed. Tempered where required by code.
 - 2. Vision Panels: 1" insulating, Lowe-E. Outboard lite to be heat strengthened.

- B. Heat Strengthened Glass: Comply with ASTM C 1048.
 - 1. Heat—strengthened (after cutting to final size) by process designed to eliminate tong marks or by vertical process if glass is installed to conceal tong marks.
 - 2. Kind: FT (fully tempered).
- 2.2 SEALED INSULATING UNITS: Preassembled units consisting of organically sealed lites of glass separated by dehydrated air spaces complying with ASTM E774 and with other specified requirements:
 - A. Insulated Glass Vision Units: 1" thick, composed of 1/4" thick tinted float glass outer lite, 1/2" air space, and 1/4" thick clear float glass inner lite.
 - 1. Where indicated and where required by project conditions as tempered, provide tempered outer and inner lites.
- 2.3 GLAZING MATERIALS: Provide materials with proven record of compatibility with surfaces contacted in installation.
 - A. Glazing Sealants: Tremco "Proglaze", Bostik Chem-Calk 1200", Pecora "836", Sonneborn "Omniglaze", or other approved by system manufacturer.
 - B. Glazing Gaskets: Structural rubber, molded neoprene, or cellular neoprene as recommended by manufacturer of glazing system.
 - C. Glazing Tape: Bostik "Chem Tape 60", Pecora "Shim-Seal", or Tremco "Pre-shimmed Tremco 440 Tape".
 - D. Setting Blocks: Neoprene or other resilient blocks of 70 to 90 Shore A durometer hardness, adhesively backed on one face only, tested for compatibility with specified glazing sealants.
 - E. Spacers: Neoprene or other resilient blocks of 40 to 50 Shore A durometer hardness, tested for compatibility with specified glazing sealant.
 - F. Compressible Filler Rod: Closed-cell or waterproof-jacketed foam of polyethylene, butyl rubber, neoprene, polyurethane or vinyl, tested for compatibility with specified glazing sealants, of 5 to 10 psi compression strength (25% deflection), recommended by sealant manufacturer for use in glazing channel to prevent sealant exudation from the channel
 - G. Mirror Mastic: An adhesive setting compound, produced specifically for setting mirrors by spot application method (25% coverage) without support, to be used in 1/8" to 1/2" thickness.

PART 3 - EXECUTION

- 3.1 PERFORMANCE REQUIREMENTS: Watertight and airtight installation of each piece of glass is required. Each installation must withstand normal temperature changes, wind loading, impact loading (for operating doors) without failure of any kind including loss or breakage of glass, failure of sealants or gaskets to remain watertight and airtight, deterioration of glazing materials, and other defects in work.
- 3.2 GLASS INSTALLATION: Comply with recommendations of glass manufacturers and manufacturers of sealants and other glazing materials, including preparation of surfaces.
- A. Clean channel surfaces and prime as recommended by sealant manufacturer.
 - B. Cut glass to size as required for measured opening, provide adequate edge clearance and glass bite all around. Cut prior to tempering.
 - C. Do not install sheets that have edge damage or face imperfections.
 - D. Miter—cut and bond (weld) ends of channel gaskets at corners to provide a continuous gasket.
 - E. Seal face gaskets at corners with liquid elastomeric sealant to close openings and prevent withdrawal of gaskets from corners.
 - F. Remove and replace glass that is broken, chipped, cracked, abraded or damaged during construction period.
 - G. Frameless Mirror: Mirror glass, with edges ground. Apply one additional coat of moisture—resistant paint, of type recommended by mirror manufacturer to back of mirror, and allow to dry. Coat edges of mirror with clear sealant or mirror edge seal. Apply mirror mastic to cover not more than 25% of back of mirror. Set mirror in support on setting blocks and press against substrate to ensure bond of adhesive. Leave open ventilation space, 1/8" or more in thickness between mirror and substrate, over 75% of mirror area (wherever there is no adhesive). Do not seal off ventilation space at edges of mirror. Hold in place with masking tape, braces or mechanical clamps until mastic sets (about 1 week).
- 3.3 CURING: Cure glazing sealants and compounds in compliance with manufacturer's instructions and recommendations to obtain high early bond strength, internal cohesive strength and surface durability.

END OF SECTION

SECTION 09250

GYPSUM BOARD

PART 1 - GENERAL

- 1.1 SUMMARY: Gypsum wallboard work, complete, including non—load bearing metal studs and gypsum board partitions, walls, furred areas, and metal trim and accessories. Provide Sound insulation in partitions.
- 1.2 RELATED WORK SPECIFIED IN OTHER SECTIONS:
- A. Rough Carpentry; Section 06100.
 - B. Thermal insulation at exterior walls; Section 07210.
- 1.3 SUBMITTALS: Comply with Section 01300.
- A. Product Data: Submit manufacturer's installation instructions for each gypsum wallboard component.
 - B. Shop Drawings: Submit drawings showing typical and special partition assemblies. Include materials, material gages, stud spacing, and bracing of studs.
- 1.4 QUALITY ASSURANCE:
- A. Allowable tolerances; 1/8" offsets between planes of board faces, and 1/4 in 8 ft. for plumb, level, warp, and bow.
 - B. Fire—Resistance Rating: Where work is indicated for fire—resistance ratings, provide materials and installations identical with assemblies which have been tested and listed by recognized authorities, including U.L., O.S.U., and U.S.G.
- 1.5 DELIVERY, STORAGE AND PRODUCT HANDLING: Deliver materials in original packages, containers and bundles, fully identified with manufacturer's name, brand, type and grade. Store in dry, well ventilated space, protected from the weather under cover and off the ground. Stack flat to prevent sagging. Handle to prevent damage to edges, ends and surfaces.

PART 2 - PRODUCTS

- 2.1 MANUFACTURERS: Georgia Pacific is specified; equivalent systems of Gold Bond and U.S. Gypsum System are acceptable.

- 2.2 MATERIALS:
- A. Gypsum board: 5/8" thick, unless otherwise indicated.
 - B. Gypsum board: 5/8" thick, Type X, fire rated, with tapered edges, as indicated.
 - C. Gypsum board: 5/8" thick, moisture resistant.
 - D. Accessories:
 - 1. Joint tape: 2" wide 10x10 glass mesh tape.
 - 2. Joint compound: ToughRock® setting-type joint compound.
 - E. Screws, metal framing:
 - 1. Bugle or wafer head, self-tapping, rust-resistant, fine thread for heavy-steel gauge.
 - 2. C-runners, H-studs, and aluminum breakaway clips as required for area separation wall system.
 - 3. Provide other fasteners as required by project conditions and as recommended by manufacturer.

PART 3 - EXECUTION

- 3.1 INSTALLATION:
- A. Use maximum lengths possible to minimize number of joints.
 - B. Drive fasteners to bear tight against and flush with surface of sheathing. Do not counter sink.
 - C. Locate fasteners minimum 3/8" from edges and ends of sheathing panels, tight against and flush with surface of sheathing.
 - D. Finishing:
 - 1. General: Treat gypsum board joints, interior angles, edge trim control joint penetrations, fastener heads, surface defects, and elsewhere as required to prepare gypsumboard surfaces for decoration. Promptly remove residual joint compound from adjacent surfaces.
 - 2. Prefill open joints, and damaged surface areas.

3. Apply joint tape over gypsum board joints, except those with trim having flanges not intended for tape.
4. Finish Levels:
 - a. Level 1: Ceiling plenum areas, concealed areas.
 - b. Level 2: Panels that are substrate for tile.
 - c. Level 3: Surfaces receiving medium- or heavy-texture finishes before painting or heavy wallcoverings where lighting conditions are not critical.
 - d. Level 4: Surfaces receiving light-textured finishes, wallcoverings, and flat paint.
 - e. Level 5: Surfaces receiving gloss and semigloss enamels and other surfaces subject to severe lighting.
5. Finish Texture: Selected by Architect

END OF SECTION

SECTION 09650

RESILIENT FLOORING AND ACCESSORIES

PART 1 - GENERAL

- 1.1 SUMMARY: Work includes:
- A. Vinyl Composition Tile.
 - B. Edge strips, carpet transition strips.
 - C. Accessories.
- 1.2 SUBMITTALS: Comply with Section 01300.
- A. Product Data: Submit copy of manufacturer's technical data, installation instructions, and maintenance instructions for each type of resilient stair tread and tiles, rubber base, and accessories.
 - B. Samples:
 - 1. Submit samples for each type and pattern of tiles and rubber base for Architect's verification.
- 1.3 DELIVERY AND STORAGE:
- A. Delivery: Deliver materials to the project site in the manufacturer's original unopened containers, clearly marked to indicate pattern gage, lot number and sequence of manufacture.
 - B. Storage: Store in original container at not less than 70°F for at least 48 hours before start of installation.
- 1.4 JOB CONDITIONS: Maintain minimum temperature of 70°F for minimum of 48 hours prior to installation. Maintain 70°F temperature continuously during and after installation as recommended by the resilient stair treads and tiles, rubber base, and accessory manufacturer, but in any case not less than 48 hours.

PART 2 - PRODUCTS

- 2.1 VINYL COMPOSITION TILE: Size, color and texture as selected by owner.
- 2.2 RESILIENT EDGE STRIPS: 1/8" thick, vinyl or rubber, bullnose edge, in color to match flooring, or as selected the Architect from standard colors; not less than 1" wide.

- 2.3 TILE AND CARPET JOINER: Mercer #15, or approved equal, with 1/8" tile undercut and 1/4" carpet undercut. Provide in standard colors as selected by Architect.
- 2.4 OTHER MATERIALS: Provide adhesives, primers, crack fillers and other materials required but not specifically described, as recommended by the resilient flooring and accessories.

PART 3 - EXECUTION

- 3.1 EXAMINATION: Examine the areas and conditions under resilient stair tread and tiles, rubber base, and accessory work is to be placed. Moisture content of concrete slabs, building air temperature and relative humidity must be within limits recommended by resilient stair tread and tile, rubber base, and accessory manufacturer. Do not proceed until unsatisfactory conditions have been corrected.
- 3.2 PREPARATION OF SURFACES:
 - A. Use leveling and patching compounds as recommended by resilient stair treads and tiles manufacturer for filling small cracks, holes and depressions, and for leveling of sub floors.
 - 1. Substrate to be planar within 1/4" in 10' in any direction.
 - B. Broom clean or vacuum surfaces of foreign material that would inhibit bond or cause surface imperfections and telegraphing.
- 3.3 INSTALLATION: Install products using methods indicated according to manufacturer's installation directions.
 - A. Resilient Edge Strip: Place edge strips tightly butted and secured to flooring with adhesive. Install edge strips at all unprotected edges of flooring unless otherwise shown.
 - B. Tile And Carpet Joiner: Place joiner strips tightly butted and secured to floor with adhesive. Insert edges of tile and carpet fully into undercuts of joiner.
- 3.4 CLEANING:
 - A. Immediately after installation perform the following operations:
 - 1. Remove visible adhesive and other surface blemishes using cleaner recommended by manufacturers of resilient product involved.
 - 2. Sweep or vacuum floor thoroughly.
 - 3. Damp-mop resilient accessories to remove marks and soil.
 - 4. Buff and wax resilient flooring per manufacturers recommendations.

- B. Protect resilient stair treads and tiles, and rubber base, and accessories, against mars, marks, indentations, and other damage from construction operations and placement of equipment and fixtures during remainder of construction period. Use protection methods recommended by manufacturer of product involved.

END OF SECTION

SECTION 09900

PAINTING

PART 1 - GENERAL

1.1 SUMMARY:

- A. Painting and finishing of interior and exterior items and surfaces throughout the project, except as otherwise indicated. Provide field painting of hangers, exposed steel and ironwork, of primed metal surfaces and exposed-to-view prefinished metal surfaces of items, as required to match adjacent surfaces, and equipment installed under mechanical and electrical work. Refer to those respective sections for painting requirements. This Subcontractor is cautioned to examine all drawings and specifications relating to other branches of work, and he shall make proper provisions to receive all other work. Provide touch-up of pre-finished items as required to match original finish.
 - 1. In compliance with code requirement (702.1.5) for permanent identification of corridor partitions, smoke-stop partitions, horizontal exit partitions, exit enclosures, and fire rated walls, provide signs or stenciling above decorative ceilings and in concealed spaces. Note: Suggested wording "Fire And Smoke Barrier-Protect All Openings"
- B. Do not paint brick, CMU, water repellent coating, toilet partitions, anodized aluminum, acoustical ceilings, solid surfacing, pre-finished items, and surfaces to receive wallcoverings, except as noted above.
- C. Shall include the furnishing of all labor, material, tools, scaffolds, and other equipment necessary to make a thoroughly complete painting job. Where items are not mentioned, they shall be finished the same as specified for similar work.

1.2 SUBMITTALS: Comply with Section 01300.

- A. Paint Schedule: Submit paint schedule listing each material cross-referenced to the specific paint and finish system and application. Identify by manufacturer's catalog number and general classification.
- B. Samples: Submit samples of finishes type and color on specified materials for verification.

1.3 DELIVERY: Deliver materials to the job site in original, new and unopened packages and containers bearing the following. The seals shall be broken and containers opened in the presence of the Architect, if requested. No alterations will be permitted to any materials, except as specified or directed.

Manufacturer's product name, and type (description)
Application & use instructions
Surface preparation
VOC content
Environmental issues
Batch date
Color number

- 1.4 STORAGE & DISPOSAL: Store and dispose of solvent-based materials, and materials used with solvent-based materials, in accordance with requirements of local authorities having jurisdiction. Store materials in an area that is within the acceptable temperature range, per manufacturers instructions. Protect from freezing.

PART 2 - PRODUCTS

- 2.1 MANUFACTURERS: Provide all paints, enamels, stains, varnishes, and admixtures of first line quality. The paint materials specified herein are identified by manufacturer's name and trade name, but these names are used only to establish a type or quality standard; thus, materials of the following manufacturers or brands which in the opinion of the Architect are equal in type and quality will be acceptable and approved: Sherwin Williams, Pratt and Lambert, ICI, Benjamin Moore, Pittsburgh, and Sterling. When submitting request for substitution, provide complete product data specified for each substitute product.
- 2.2 MATERIALS: See paragraph 3.7. SCHEDULE OF PAINT TREATMENT for materials. All finish coats shall contain mildewcides. Grind in the factory all exterior colors and interior deep tone colors. Shop mixing is not permitted. Colors as scheduled or if not scheduled, as selected by the Architect, and subject to modification on the job at the Architect's discretion. Verify with paint manufacturer for correct tint / shade of primer to achieve true color value of specified paint.

PART 3 - EXECUTION

- 3.1 EXAMINATION: Examine the areas and conditions under which painting work is to be performed. Do not proceed with the work until unsatisfactory conditions have been corrected. Starting of painting work will be construed as acceptance of the surfaces within any particular areas.
- 3.2 SURFACE PREPARATION: Perform all preparation and cleaning procedures in strict accordance with the paint manufacturer's instructions and as herein specified. Remove all hardware, plates, lighting fixtures, and similar items in place and not to be finish painted, or provide protection prior to surface preparation and painting operations. Remove, if necessary, for the complete painting of the items and adjacent surfaces. Reinstall the removed items by workmen skilled in the trades involved, after painting is completed.
- A. Wood: Clean wood surfaces to be painted of all dirt, oil, or other foreign substances with scrapers, mineral spirits, and sandpaper, as required. Sandpaper smooth those surfaces exposed to view, and dust off. Prime, stain, or seal wood

required to be job painted immediately upon delivery to job. Prime edges, ends, faces, undersides, and backsides of such wood, including cabinets, counters, cases, etc. Scrape and clean small, dry seasoned knots, and apply a thin coat of white shellac or other recommended knot sealer, before application of the priming coat. After priming, fill holes and imperfections in finish surfaces with putty or plastic wood-filler. Sandpaper smooth when dried.

- B. Gypsum Wall Board: Treat all joints, nail heads and other depressions in the surface of the wallboard, in accordance with the recommended manner, with a taped joint system by the gypsum wallboard manufacturer. Do not paint over gypsum wallboard work until taped joints are thoroughly dry.
- C. Ferrous Metals: Touch-up shop-applied prime coats which have damaged or bare areas. Wire-brush, solvent clean, and touch up with the same primer as the shop coat.
- D. Galvanized Surfaces: Clean free of oil and surface contaminants with an acceptable non-petroleum based solvent
- E. Aluminum: Remove film of oil and grease before painting by washing with mineral spirits.

3.3 APPLICATION:

- A. Apply paint by brush, roller, spray, or other acceptable practice in accordance with the manufacturer's directions. Use brushes best suited for the type of material being applied. Use rollers of carpet, velvet back, or high pile sheeps wool as recommended by the manufacturer for material and texture required.
- B. The number of coats and paint film thickness required is the same regardless of the application method. Do not apply succeeding coats until the previous coat has completely dried. Sand between each enamel or varnish coat application with fine sand paper, or rub surfaces with pumice stone where required to produce an even smooth surface in accordance with the coating manufacturer's directions.
- C. Apply additional coats when undercoats, stains, or other conditions show through the final coat of paint, until the paint film is of uniform finish, color and appearance. All damage to shop prime coat caused by cleaning, repairing and erection to be spot primed with the same material as used for the shop coat.
- D. Give special attention to insure that all surfaces, including edges corners, crevices, welds, and exposed fasteners receive a film thickness equivalent of that of flat surfaces.
- E. Touch-up damaged coatings after substantial completion, following manufacturer's recommendation for touch up or repair of damaged coatings. Repair any defects that will hinder the performance of the coatings.

3.4 APPLICATION AND WORKMANSHIP:

- A. The workmanship shall be of the very best, and all materials evenly spread and flowed on without runs, sags, or excessive brush marks. Only skilled mechanics shall be employed.
- B. If the prime coat applied does not dry to a uniform sheen over the entire surface, spot prime the areas that indicate suction, before applying the finish.
- C. Stain to be applied to a uniform coat and wiped off as required to produce the color desired.
- D. Sand all gloss enamel, varnish, and undercoated prior to applying another coat.
- E. All undercoats of paint or enamel to be tinted to a color approximating the color of the finish. Permit enough variation in color for guide coat.
- F. All coats shall be thoroughly dry before applying succeeding coats. Allow at least 24 hours between coats.
- G. Tops and bottom edges of doors to be finished the same as face of doors after they are fitted by the carpenter.
- H. This Subcontractor must protect all adjacent work and material with suitable covers during the progress of this work.
- I. No painting shall be done outside or inside with a water emulsion paint when the temperature of the surface to receive paint is below 45^o F. No painting shall be done outside or inside with any oil base paints or stains when the temperature is below 50^o F.
- J. Upon completion of the work, all misplaced paint and varnish spots or spills to be removed and work left in a condition acceptable to the Architect.

3.5. STORAGE AND CLEANING:

- A. Storage: All paint materials and equipment used on the job to be stored in a single place designated by the Contractor. The storage area must be kept clean and neat. Floors to be adequately protected from paint spillage with proper covers. Any damage caused by this Subcontractor to surfaces within the storage area to be made good. Any oil rags, waste, etc. must be removed each night after being placed in a covered receptacle during the day. All precautions against fire must be taken.
- B. Cleaning: This Subcontractor shall protect floors, glass, wood, steps, etc. in a suitable manner to prevent damage to same by painting. He shall be responsible

for any damage done to the work of other Subcontractors and shall at his expense replace any materials damaged to such an extent that they cannot be restored to their original condition. After completion of the work, this Subcontractor shall remove all rubbish and surplus materials left by him and shall clean off all paint spots, and soil stains from floors, leaving the job in perfect condition so far as his work is concerned.

3.6 ATTIC STOCK: Provide a minimum of 1/2" gallon of each paint type specified.

3.7 SCHEDULE OF PAINT TREATMENTS

PAINTING SCHEDULE: All paint materials listed in the following paragraph are manufactured by Sherwin-Williams, Inc., or equal.

1.Exterior Galvanized Surfaces: Any galvanized sheet metal gutters and downspouts, flashing and trim. Clean thoroughly before painting as per manufacturer's instructions.

1st coat-Galvite Primer
2nd coat -Metalatex Semi-Gloss
3rd coat-Metalatex Semi-Gloss

2.Exterior Steel or Aluminum (either primed or unpainted such as steel doors, frames, lintels, equipment louvers, grilles, etc.

1st coat -If unpainted, prime with Kem Kromik Metal Primer. If Primed, clean and touch up bare spots with Kem Kromik
2nd coat and
3rd coat-SW Industrial Alkyd Base Enamel

3. Exterior Siding:

1st coat -Loxon Primer
2nd coat and
3rd coat-SW A-100 Acrylic Paint

4. Interior Walls- Gypsum Board:

Joints -All purpose Joint compound
1st coat- Speedhide Latex Wall Primer
2nd coat - Speedhide Latex Eggshell Wall Paint
3rd coat- Speedhide Eggshell Flat Wall Paint

5. Interior Metals - Steel Frames, Hand Rails & Exposed Structural Steel

1st coat-Touch Up bare spots with Kem Kromik Metal Primer or Prime raw material.
2nd coat and
3rd coat-SW Industrial Alkyd Base Enamel

6. Interior Trim and Millwork:

1st coat -Wall and Wood Primer

2nd coat- Speedhide Alkyd Semi-Gloss Enamel

3rd coat- Speedhide Alkyd Semi-Gloss Enamel

Sand with 5/0 180 grit sandpaper immediately before painting.

7. Interior Trim and Millwork:

1st & 2nd coat - Paste Wood Filler & Stain

3rd & 4th coat--Polyurethane Varnish

8. Parking Lot Striping:

Sherwin-Williams Setfast Acrylic Latex Traffic Marking Paint

END OF SECTION

SECTION 10990

FIRE EXTINGUISHERS

PART 1 – GENERAL:

- 1.1 SCOPE: Provide miscellaneous specialties, complete.
- 1.2 RELATED WORK SPECIFIED IN OTHER SECTIONS: Finish Painting; Section 09900.
- 1.3 SUBMITTALS: COMPLY WITH SECTION 01300.
 - A. Product Data: Submit manufacturer's technical data and installation instruction for accessory item specified.
 - B. Shop Drawings: Submit shop drawings indicating location, details of installation, finished and other pertinent data.

PART 2 – PRODUCTS:

- 2.1 FIRE EXTINGUISHER AND CABINET: Larsen's Manufacturing Company is specified. Equivalent product of J.L. Industries and Potter Roemer are acceptable.
 - A. Cabinet: Model 2409-5R; semi recessed steel cabinet with Vertical Duo Panel door glazed with clear float glass. Provide in manufacturer's standard white color de-glossed for field painting. Provide square trim in same finish as cabinet. Paint per Architects selection.
 - B. Extinguisher: MP10 4A-60B:C multi-purpose, 10 lb. Heavy-duty steel extinguisher.
 - C. Quantity/Locations: Provide cabinets and extinguishers to be located per drawings.
 - D. Provide one extinguisher, mounted to wall with bracket in location per drawings.

PART 3 – EXECUTION:

- 3.1 INSTALLATION:
 - A. Install each accessory in compliance with manufacturer's instruction and final shop drawings.
 - B. Install at location as indicated on drawings. Mounting heights as indicated by local code and confirmed by the Fire Marshal.

END OF SECTION

SECTION 13122

METAL BUILDING SYSTEM

PART 1 - GENERAL

- 1.1 SCOPE: Provide rigid frame pre-engineered metal building system, complete, including structural framing, roofing, siding, gutters and downspouts, flashing and trim, pipe flashing, and vinyl faced insulation.
- 1.2 RELATED WORK SPECIFIED IN OTHER SECTIONS:
 - A. Concrete floor and installation of anchor bolts; Section 03300 and 05500, respectively.
 - B. Joint Sealants; Section 07900
 - C. Hollow metal doors and frames; Section 08110.
- 1.3 SUBMITTALS: Comply with Section 01300.
 - A. Product Data: Submit manufacturer's product information, specifications and installation instructions for building components and accessories.
 - B. Shop Drawings: Submit complete erection drawings showing anchor bolts settings, sidewall, endwall, and roof framing, transverse cross sections, covering and trim details, and accessory installation details to clearly indicate proper assembly of building components. Drawings shall carry the seal and be signed by the design engineer.
 - C. Samples: Submit sample of roofing and siding panels, if requested. Include sample of fasteners to be used for application of panels. Include sample of sealants and closures.
 - D. Certification: Submit written certification prepared and signed by professional engineer, registered to practice in state of Arkansas, verifying that building design meets loading requirements and codes of authorities having jurisdiction, including seismic requirements per the Arkansas Fire Prevention Code. Submit calculations with certification.
 - E. Certificates: Submit certificates that manufacturer and installer complies with requirements included under "Quality Assurance" article.

1.4 SYSTEM PERFORMANCE REQUIREMENTS:

- A. General: Engineer, design, fabricate and erect pre-engineered metal building system to withstand loads from winds, gravity, structural movement including movement thermally induced, seismic movement, and to resist in-service use conditions that the building will experience, including exposure to weather, without failure.
 - 1. Design each member to withstand stresses resulting from combinations of loads that produce maximum allowable stresses in that member as prescribed in MBMA's Design Practices Manual".

- B. Structural Framing and Roof Panels: Design primary and secondary structural members and exterior covering materials for applicable loads and combination of loads in accordance with Metal Building Manufacturers Associations's (MBMA) "Design Practices Manual".
 - 1. For structural steel members, comply with AISC "Specification for the Design, Fabrication, and Erection of Structural Steel for Buildings" for design requirements and allowable stresses.

 - 2. For light gage steel members, comply with AISI "Specification for the Design of Cold-Formed Steel Structural Members" and "Design of Light Gage Steel Diaphragms" for design requirements and allowable stresses.

 - 3. For welded connections, comply with AWS "Standard Code for Arc and as Welding in Building Construction".

- C. Design Loads: Design each member to withstand stresses resulting from combinations of loads that produce maximum percentage of actual to allowable stress in that member, as prescribed in MBMA "Design Practices Manual"; comply with codes of authorities having jurisdiction.

1.5 QUALITY ASSURANCE:

- A. Manufacturer's Qualifications: Provide pre-engineered metal building manufactured by firm experienced in manufacturing metal building systems that are similar to those indicated for this project and have a record of successful in-service performance. Provide certification that pre-engineered metal building meets specified requirements.

- B. Installer Qualifications: Engage an experienced installer to erect pre-engineered metal building who has specialized in erection and installation of types of metal building system similar to that required for this project and who is certified in writhing by metal building system manufacturer as qualified for erection of manufacturer's products.

1.6 DELIVERY, STORAGE AND HANDLING:

- A. Deliver and store prefabricated components, sheets, panels, and other manufactured items so they will not be damaged or deformed.

- B. Stack materials on platforms or pallets, covered with tarpaulins or other suitable weathertight ventilated covering. Store metal sheets or panels so that water accumulations will drain freely. Do not store sheets or panels in contact with other materials which might cause staining.

1.7 WARRANTY

- A. 20 Year Weathertightness System Warranty, Full Value, Non-Prorated, Replacement Warranty, including flashing and trim.
- B. 20 Year Finish Warranty.

PART 2 - PRODUCTS

2.1 MANUFACTURERS: Crown Metal Buildings (and MBCI Metal Roof and Wall Systems) is specified. The following manufacturers or approved equal will be acceptable: Butler, American, Alliance, Varco-Pruden, Ruffin, Cicco, Pinnacle.

2.2 MATERIALS:

- A. Hot-Rolled Structural Shapes: ASTM A 36 or A 529.
- B. Tubing or Pipe: ASTM A 500, Grade B; ASTM A 501; or ASTM A 53.
- C. Members Fabricated from Plate or Bar Stock: 50,000 psi minimum yield strength; ASTM A 529, A 570 or A 572.
- D. Member Fabricated by Cold Forming: ASTM A 607, Grade 50.
- E. Galvanized Steel Sheet: ASTM A 446, with G90 coating.
- F. Bolts for Structural Framing: Comply with requirements of ASTM A 307 or A 325 as necessary for design loads and connection details.

2.3 STRUCTURAL FRAMING COMPONENTS:

- A. Rigid Frames:
 - 1. Hot rolled structural steel. Factory welded and shop painted built-up "I" shape or open web rigid frame consisting of uniform beams and columns. Furnish complete with attachment plates, bearing plates, and splice members. Factory drilled for bolted field assembly. Provide rigid frame at end walls where indicated.
 - 2. Length of span and spacing of frames as indicated except slight variation acceptable to metal manufacturer's standard.
- B. End Wall Columns: Factory welded, built-up of "I" shape or hot rolled sections. Fabricate of minimum 14 gage material. Shop painted.

- C. Wind Bracing: Adjustable, threaded steel rods, 1/2" diameter minimum; ASTM A 36 or A 572, Grade D or Portal Frames. See Drawings for locations.
- D. Secondary Framing:
 - 1. Purlins, eave struts, end wall beams, flange and sag bracing; minimum 16 gage rolled formed sections. Shop painted.
 - 2. Base channel, sill angle, end wall structural members (except columns and beams), purlin spacers; minimum 14 gage cold formed steel.
- E. Bolts: ASTM A 307 or A 325 as necessary for design loads and connection details. Shop painted, except provide zinc- or cadmium-plated units when in direct contact with panels.
- F. Fabrication: Shop fabricate to indicated size and section, complete with base plates, bearing plates, and other plates as required for erection, welded in place, and with required holes for anchoring or connections shop drilled or punched to template dimensions. Shop connections power riveted bolted, or welded. Field connections bolted.
- G. Shop Painting: Clean surfaces to be primed of loose mill scale, rust dirt, oil, grease, and other matter precluding paint bond. Follow procedures of SSPC-SP3 for power tool cleaning, SSPC-SP7 for brush-off blast cleaning, and SSPC-SP1 for solvent cleaning.
 - 1. Prime structural steel primary and secondary framing members with manufacturer's standard rust-inhibitive primer having over 50% rust-inhibitive pigment.
 - 2. Prime galvanized members, after phosphoric acid pretreatment, with zinc dust-oxide primer.

2.4 RIGID FRAME STRUCTURE: 1:12 roof slope.

2.5 ROOFING AND WALL PANELS: Provide roofing, wall, and sheet formed as indicated and specified. Provide flashings, closers, fillers, metal expansion joints, trim, and other sheet metal accessories, factory formed of same material and finish as roofing, siding. All systems and components specified below may be submitted for an alternate manufacturer to be approval as an equal.

- A. Roof System: MBCI Ultra Deck, 24 gage, 24" wide, galvalume with thermal block and UL 90 uplift requirement. 1:12 slope.
- B. Roof System at awning: MBCI Ultra Deck, 24 gage, 12" wide, Kynar 500 finish in color selected by owner.
- C. Wall Panels: MBCI PBR Panel, 24 gage, 36" wide, Kynar 500 finish in color selected by owner.

- D. Interior Liner Panel: MBCI ILM-240-3, 24 gauge, 24" wide, Kynar 500 finish in color selected by owner.
- 2.6 FASTENERS: Manufacturer's standard system of self-tapping screws, bolts, and nuts, self-locking rivets, self-locking bolts, end-welded studs, and other suitable fasteners designed to withstand design loads.
- A. Provide metal-backed neoprene washers under heads of fasteners bearing on weather side of panels.
 - B. Use aluminum or stainless steel fasteners for exterior application and galvanized or cadmium plated fasteners for interior applications.
 - C. Locate and space fastenings for true vertical and horizontal alignment. Use proper type fastening tools to obtain controlled uniform compression for positive seal without rupture of neoprene washer.
 - D. Provide fasteners with heads matching color of siding sheets by means of plastic caps or factory applied coating.
- 2.7 MISCELLANEOUS:
- A. Flexible Closure Strips: Closed-cell, expanded cellular rubber, self-extinguishing, cut or premolded to match corrugation configuration of roofing and siding sheets. Provide where indicated and necessary to ensure weather tight construction.
 - B. Sealing Tape: 100% solids, pressure sensitive polyisobutylene compound tape with release paper backing. Not less than 1/2" wide and 1/8" thick, nonsag, nontoxic, nonstaining and permanently elastic.
 - C. Joint Sealant: Polyurethane, as recommended by building manufacturer, meeting requirements specified in Section 07900.
- 2.8 INSULATION:
- A. Glass Fiber Blanket Insulation: Not less the 0.6 lb. Per cu.ft. Density, glass fiber blanket with U.L. Flamespread classification of 25 or less; 6" thick or thickness as required to provide R=19.
 - B. Vinyl Faced Insulation: Provide blanket specified in A. Above with 3.2 mil white vinyl facing and standard 3" tabs, without adhesives, along both edges of blanket.
 - 1. Comply with NAIMA 202-96 Certified Metal Building Insulation with NAIMA imprint on surface of insulation.
 - C. Retainer Strips: 26 gage formed galvanized steel retainer clips colored to match insulation facing.
 - D. Tape: White color, type recommended by manufacturer.

- 2.9 SHEET METAL ACCESSORIES: Provide sheet metal accessories, complete, including cap flashing, trim, gutters and downspouts.
- A. Gutters: 26 gage galvanized steel. Size in accordance with SMACNA. Join section with riveted and soldered or sealed joints. Furnish gutter supports spaced at 36" o.c., constructed of same metal as gutters. Provide standard bronze, copper, or aluminum wire ball strainers at each outlet. Finish to be Kynar 500 in color as selected by Architect.
 - B. Downspouts: Size as indicated or required by gutter size, complete with elbows and offsets. Join sections with minimum 1-1/2" telescoping joints. Provide fasteners for top, bottom, and 5' o.c. Intermediately between, designed to securely hold downspouts not less than 1" away from walls. Material and finish to match gutters.
- 2.10 PIPE FLASHING: EPDM rubber, black in color, sized to pipe. Ductile aluminum reinforcing ring bonded to rubber flange on base of flashing unit.
- 2.11 FABRICATION:
- A. General: Design prefabricated components and necessary field connections required for erection to permit easy assembly and disassembly.
 - 1. Fabricate components in such a manner that once assembled, they may be disassembled, repackaged, and reassembled with minimum amount of labor.
 - 2. Clearly and legibly mark each piece and part of the assembly to correspond with previously prepared erection drawings, diagrams, and instruction manual.
 - B. Structural Framing: Shop-fabricate framing components to indicated size and section with base plates, bearing plates, and other plates required for erection, welded in place. Provide holes for anchoring or connections shop-drilled or punched to template dimensions.
 - 1. Shop Connections: Provide power riveted, bolted, or welded shop connections.
 - 2. Field Connections: Provide bolted field connections.

PART 3 - EXECUTION

- 3.1 ERECTION:
- A. Framing: Erect structural framing true to line, level and plumb, rigid and secure. Level base plates to a true even plane with full bearing to supporting structures, set with double-nutted anchor bolts. Use a non-shrinking grout to obtain uniform bearing and to maintain a level base line elevation. Moist cure grout for not less than 7 days after placement.
 - B. Purlins and Girts: Provide rake or gable purlins with tight fitting closure channels and fascias. Locate and space wall girts to suit door and window arrangements and

heights. Secure purlins and girts to structural framing and hold rigidly to a straight line by sag rods.

- C. Wind Bracing: Portal frame and rod "X" bracing. No fixed base wind columns allowed.
- D. Framed Openings: Provide shapes of proper design and size to reinforce opening and to carry loads and vibrations imposed, including equipment furnished under mechanical and electrical work. Securely attach to building structural frame.

3.2 ROOFING AND WALL:

A. General:

1. Arrange and nest sidelap joints so that prevailing winds blow over, not into lapped joints. Lap ribbed or fluted sheets one full rib corrugation. Apply panels and associated items for neat and weathertight enclosure. Avoid "panel creep" or application not true to line. Protect factory finishes from damage. Show rib dimensions and lap installation on shop drawings.
2. Provide weatherseal where required for weathertightness; flash and seal roof panel at eave and rake with rubber, neoprene, or other closures to exclude weather.

B. Roof And Wall Systems: Comply with manufacturer's recommendations and final shop drawings.

C. Accessories: Install gutters, downspouts, hangers and supports, trim, flashing, and other sheet metal accessories in accordance with manufacturer's recommendations and details for positive anchorage to building and weathertight mounting. Flash penetrations for positive weathertightness.

D. Pipe Flashing: Install in compliance with manufacturer's directions. Penetration through flat area of roof panel is recommended.

E. Insulation: Install insulation in accordance with manufacturer's instructions, performed concurrently with installation of panels. Install blankets straight and true in one-piece lengths and both sets of tabs sealed to provide a complete vapor barrier. Tap joint where required by project conditions. Where required, install retainer strips at longitudinal joints, straight and taut, nesting with panel ribs to hold insulation in place.

1. Provide vinyl faced insulation or vinyl faced insulation with batt infill at roof; thickness as required to provide R=19.

3.3 CLEANING AND TOUCH-UP: Clean component surfaces of matter that could preclude paint bond. Touch up abrasions, marks, skips, and other defects to shop-primed surfaces with same type material as shop primer.

END OF SECTION

SECTION 13122-7

SECTION 15010
BASIC MECHANICAL REQUIREMENTS

PART 1 – GENERAL

1.01 SECTION INCLUDES

- A. Basic mechanical and electrical requirements specifically applicable to Division 15 Sections in addition to applicable Division 1 sections of Specifications.
- B. The General and Special Conditions for the specifications are applicable to this division of the specifications. In the event of any conflict between the general and special conditions and this division, the requirements of this division shall take precedence.

1.02 MEANS AND METHODS

- A. Unless otherwise expressly provided in the contract drawings, specifications, and addenda, the means and methods of construction shall be such as the contractor may choose; subject, however, to the Engineer's right to reject means and methods proposed which: (1) will constitute or create a hazard to the work, or to persons or property; or (2) will not produce finished work in accordance with the terms of the contract.
- B. The Engineer's approval of means and methods of construction or his failure to exercise his right to reject such means or methods, shall not relieve the contractor of his obligation to accomplish the result intended by the contract; nor shall the exercise of such right to reject create a cause of action for damages.

1.03 SITE AND JOB CONDITION INSPECTION

- A. Before submitting a bid, thoroughly inspect the job site and existing facilities to insure complete understanding of conditions to be met in carrying out the requirements of this contract. Verify at the job site all measurements necessary for the proper installation of the work.
- B. Where work consists of modification or of addition to an existing facility, the contract documents do not indicate all of the existing mechanical installations. Inspect the existing installation to determine full extent of effect of existing conditions on work under this contract.

1.04 RELATIONSHIP BETWEEN DRAWINGS AND SPECIFICATIONS

- A. The drawings and specifications are complementary documents. In the event of conflict between them, the drawings shall take precedence.

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B. Generally, the specifications provide general instructions for completion of work and fix the quality of equipment supplied and of workmanship in performance of work.

C. Generally, the drawings show quantities, capacities and indicate diagrammatically the location of the various components of the mechanical system and the method of connecting, circuiting and controlling them. Exact location of components must be determined from detail drawings, rough-in drawings, shop drawings, and by measurements on the job and are subject to approval of the Architect/Engineer.

1.05 SUBSTITUTIONS

A. Where manufacturer's names appear, other manufacturers may be substituted upon obtaining written approval from the Architect/Engineer at least ten working days prior to opening of bids.

B. Assume any additional charges, including engineering charges and any charges for changes in the work resulting from substitutions.

C. If substitutions in materials, equipment, or designs are made, with or without the Engineer's approval, other than those authorized herein, assume full responsibility for the effects of such substitutions on the entire project.

1.06 SUBMITTAL DATA

A. Provide submittal data for all mechanical equipment, air distribution equipment, automatic controls, piping specialties, insulation and vibration isolators, or other items as required by the Engineer.

B. Provide 5 copies of all submittals derived from manufacturer's literature to the Engineer within 30 days of the date the contract is approved. Indicate positively the exact items offered with capacities and dimensions clearly marked and options to be provided. Submittals shall be permanent copies and not copies which age rapidly. Include the name, address and telephone number of the supplier or manufacturer's representative through whom the equipment is to be procured.

1.07 SHOP DRAWINGS

A. Generally, shop drawings shall be required only to show departures from the plans as prepared by the Engineer, shall consist of working scale drawings showing clearly each such departure, and shall be approved by the Engineer before the work is started. Detailed installation drawings need not be submitted for approval unless specifically required.

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B. Wherever shop drawings are called for, furnish 5 copies after receiving approval on materials and equipment and in sufficient time that no delay or changes will result. Shop drawings shall be permanent copies and not copies which age rapidly.

1.08 AS-BUILT DRAWINGS

A. During progress of construction, record on one set of prints any deviation from original design with respect to size and location of all mechanical system components. Record final location of all underground lines by depth from finished grade and by distance from buildings, curbs, or walks.

B. On completion of the contract, submit these drawings to the Architect/Engineer for approval and record.

1.09 CODES, ORDINANCES AND REGULATIONS

A. Install all components of the mechanical system in accordance with the current editions of local, state and national codes, ordinances, or regulations pertaining to the class of work. If any conflict between these codes and the plans and specifications occurs, notify the Engineer and request a resolution of the conflict.

B. Arrange for inspection and testing of systems by constituted authorities as required by local codes and ordinances. Obtain and deliver to the Architect/Engineer final certificates of acceptance from authorities.

C. Applicable portions of the following ordinances, codes and regulations in effect on the bid opening date shall be used:

- (1) National Electrical Code
- (2) National Fire Protection Association Recommended Practices
- (3) American Society of Mechanical Engineers Piping and Boiler Codes
- (4) National Safety Code
- (5) Arkansas State Plumbing and Gas Code
- (6) Arkansas Fire Prevention Code
- (7) Arkansas State Mechanical Code
- (8) Other Applicable State or Local Ordinances or Codes
- (9) Occupational Health Safety Act
- (10) Underwriters' Laboratories
- (11) American Society of Testing Materials
- (12) American National Standards Association
- (13) Seismic Code

1.10 PERMITS AND FEES

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Obtain all permits required for installation of work and pay any fees required for these permits.

1.11 UTILITIES LOCATIONS, METERS AND CONNECTIONS

A. Locations and elevations of utilities given on plans are from utility maps or other reliable sources but are offered as a general guide only with no guarantee as to accuracy. Verify the location and elevation of all utilities affecting work, prior to installation of any piping.

B. Arrange with proper authorities and utility companies for service connections, verifying locations and arrangements and paying all charges pertaining thereto.

C. Furnish meters and pressure regulators as indicated on plans when not furnished by the utility company. Furnish meter loops and bypasses and set meters furnished by utilities companies. All piping shall conform to Utility Company Specifications.

D. When connections to existing lines, rerouting of utility lines, modifications to services, etc., would interrupt service or interfere with normal use of the buildings, arrange work such that outages are minimized and schedule outages to occur at times satisfactory to the Owner.

1.12 SKILLED LABOR AND SUPERVISION

Accomplish all work with workmen skilled in their trade or under continuous supervision of skilled craftsmen. Provide a superintendent on the job with experience in the type of work involved and capable of coordinating and directing the installation of the mechanical system.

1.13 OPERATING AND MAINTENANCE INSTRUCTIONS

A. Prior to final inspection, submit to the Engineer, in draft form, three sets of instructions for operating and maintaining system and equipment. After approval of draft, provide finished copies, framed with glass cover, and mount in suitable locations on the job.

B. Provide three copies of a bound manual containing repair parts list, detailed maintenance instructions and detailed operating instructions for each component of the mechanical system.

1.14 GUARANTEE

A. Furnish a written certificate of guarantee of materials, equipment and labor to be free of defects for one year from date of final acceptance and agree thereby to replace, repair or in other manner make good any defects appearing in that period without additional cost to the Owner.

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B. This guarantee shall specifically include the replacement of drive belts, bearings, seals, and other similar items whose improper installation or lack of attention could be cause for failure within the one-year period, but does not include the replacement of air filters, or similar expendable items.

1.15 DISPOSAL OF WASTE MATERIALS

Remove all waste materials and rubbish from the site. Do not stockpile on site.

PART 2 – PRODUCTS

2.01 APPEARANCE OF WORK

A. Arrange and install all exposed portions of work specified under this division such as access doors, grilles, escutcheons, thermostats, etc., to fit in and harmonize with the work specified in other divisions to the satisfaction of the Architect/Engineer.

B. Run piping and ductwork exposed in mechanical rooms and concealed in chases, attic and crawl spaces, or in enclosures or furring unless indicated otherwise. Traps, supplies and stops to plumbing fixtures may be exposed unless otherwise noted.

2.02 PAINTING

A. Mechanical equipment, unless otherwise specified, shall have standard factory finish or at least a prime coat finish. Restore marred surfaces of mechanical equipment to original condition.

B. Paint all exposed gas piping within building, exposed outside building, in boiler rooms and in furnace rooms. Apply one coat of inhibiting primer coat and two finish coats.

C. Paint all refrigerant piping insulation outdoors with two coats of exterior enamel.

D. Other painting and finishes are specified elsewhere.

2.03 EQUIPMENT IDENTIFICATION

Provide nameplates or identification labels for all mechanical equipment and main or riser shutoff valves. Nameplates shall be laminated bakelite with letters at least 3/8" high. Attach permanently to the equipment in a conspicuous location. Do not attach to removable parts of equipment such as starter covers.

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2.04 PROTECTION OF APPARATUS

- A. Protect equipment stored on the job site or installed on the job from damage. This shall include construction of temporary shelters to protect equipment stored in the open, cribbing of equipment above the floor, and the covering of equipment in the uncompleted buildings.
- B. Keep ends of pipe and conduits, including those extending through roofs, drains, openings in equipment, and fixture branches, closed with caps or plugs to prevent foreign material from entering them during construction.
- C. Do not operate equipment furnished under this contract during construction, except as required for testing, without written permission of the Engineer.

2.05 FIXTURE AND EQUIPMENT SUPPORTS AND FASTENINGS

- A. Support fixtures and equipment so they can function properly without damage to structure or equipment or hazard to occupants. Support from structural components such as joists or studs, or proper blocking, etc., and not from suspended ceilings or wall panels or plaster.
- B. Use expansion sleeves, wood screws, through bolts, Phillips "Red Head" self-drilling anchors or Ramset fasteners where applicable and as recommended by the manufacturers.
- C. Install floor mounted equipment on concrete bases, not less than 4" high unless otherwise noted. Corners of the foundations shall be neatly chamfered. Place foundation bolts in the forms when the concrete is poured, correctly located by means of templates. Allow 1" below equipment bases for alignment and grouting. After grouting remove the forms and hand rub the surface of foundations with carborundum.
- D. Furnish special piping and equipment supports as specified under other sections of this division.

2.06 VIBRATION ISOLATION

Provide resilient motor bases, vibration isolators on equipment, flexible connectors in piping and ductwork and vibration isolating hangers for piping as required or specified to prevent transmission of objectionable vibrations to occupied spaces. All vibration isolators shall be by a single manufacturer unless provided as an integral part of an item of equipment.

2.07 ROOF CURBS AND ROOF AND WALL PENETRATIONS

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- A. Provide curbs for relief vents, rooftop exhaust fans, H.V.A.C. equipment, etc., where required. Equipment on sloping roofs shall have sloped curbs to match roof slope. Coordinate location and size of all roof openings with other trades affected.
- B. Provide proper sheet metal flashing and counterflashing for all places where piping, ducts, etc., specified in this division penetrate the roof. Provide sheet lead plumbing vent flashing as specified.
- C. Install fire dampers with access doors, at all duct penetrations of fire rated walls and floors.
- D. Provide 22 gage galvanized iron sleeves where pipes penetrate interior walls and galvanized wrought iron sleeves where pipes penetrate exterior masonry walls, concrete beams, walls or floors. Size sleeves to permit insertion of pipes, continuation of insulation through walls and proper waterproofing and sealing where required. Finish wall sleeves flush with the walls and floor sleeves 1" above finished floor.
- E. Provide "fire-stop" caulk or sealant around all pipe penetrations of fire rated walls or floors.
- F. Install chromium-plated sectional plates around pipes at all wall, ceiling and floor penetrations except in attics and crawl spaces.

PART 3 – EXECUTION

3.01 ACCESSIBILITY OF EQUIPMENT

- A. Install valves, unions, junction boxes, expansion joints, flexible connections, instruments, air vents, bearings, filters, cleanouts, strainers, and other items requiring servicing or repairs in accessible location where possible.
- B. Furnish and install Milcor metal access panels, style, and type as required for access to equipment above ceilings, in chases, etc., to which access will be required for servicing, testing, balancing, etc., and which are not otherwise accessible.

3.02 EXCAVATION AND TRENCHING

- A. Excavate and trench as required to install portions of the mechanical systems required to be located below grade. Arrange cutting of streets and walks with cognizant authorities and patch cuts to conform to their requirements.
- B. Exercise care to protect the roots of trees to remain. Perform all the trenching within the branch spread by hand. When trench is opened, install the utility immediately, prune injured roots cleanly and backfill as soon as possible.

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C. Keep trenches free from water while construction therein is in progress. Pump or bail water from bell holes to permit proper joining of pipes. Conduct discharge from dewatering to drains or natural drainage channels.

D. Unless otherwise shown or approved by the Engineer, provide separate trenches for sewers, water lines, and gas lines. Provide a minimum of 10' of undisturbed earth between water and sewer trenches.

E. Grade bottom of trenches to provide uniform bearing support for each sections of pipe on undisturbed soil. Dig bell holes with only sufficient room for making up joints. Where trench is in rock, excavate at least 4" over depth and backfill with loose moist earth thoroughly tamped to desired depth. Where unstable soil in trench is incapable of supporting pipe, remove it and backfill to trench bottom grade with coarse sand or fine gravel. Round bottom of trench so that at least 1/3 of the circumference of the pipe will rest on undisturbed or tamped soil.

F. Backfill trenches only after required tests have been completed. Backfill and tamp in 6-inch layers with materials free of large stones or clods of earth to cover of 1 foot for water lines and 2 feet for sewer and gas lines. Backfill the remainder of trenches in 1' layers. Do not use blasted rock, broken concrete or large boulders for backfill. Backfill entire depth of trenches to be covered with roads, walks, or concrete slabs in 6-inch layers with each layer moistened and compacted to at least 95% compaction as specified by Modified Compaction Procedures (ASTM D-1557).

G. All buried lines shall have a minimum of 18 inches cover unless noted otherwise. Utilities lines beyond 2 feet from building shall not be installed until all rough grading is completed. Allowances shall be made for finished grading operations to insure adequate final cover over lines.

3.03 CUTTING AND PATCHING

Hold all cutting of walls, floors, ceilings, roofs, etc., to a minimum by providing sleeves or arranging to have proper openings left. Perform cutting required to install the mechanical systems. Openings shall be only as large as required and provided with structural supports where necessary. Do not cut structural members or load bearing masonry walls without permission from the Engineer. Provide for patching of openings by the trade whose work is disturbed.

3.04 BELT DRIVES

A. Equip each belt driven machine with a v-belt drive with endless belts of reinforced cord and rubber construction. Cords shall be long staple cotton, rayon, nylon, or other suitable fiber. Belts shall be correct cross section to fit properly in sheave grooves and carefully matched for each drive.

BASIC MECHANICAL REQUIREMENTS

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B. Provide sheaves of cast iron or steel, bored to fit shafts and secured with keys of proper size. The use of set screws alone will not be permitted. Select variable pitch sheaves so the required RPM will be obtained with sheave set in mid-position. Driving and driven shafts shall be parallel and sheaves so located that corresponding grooves will be in the same place. The driven sheave shall have the same groove spacing as motor sheave.

C. Drive rating shall be as recommended by the equipment manufacturer but at least 1.5 times the nameplate rating of the motor, with proper allowance for sheave diameters, center distance and arc of contact less than 180 degrees.

3.05 GUARDS

A. Equip each exposed drive assembly with a guard constructed of 12 gauge diamond mesh wire screen, or equivalent, welded to 1" steel angle frames enclosing all belts and sheaves. Construct tops and bottoms of guards of not less than 18 gage galvanized sheet metal. Secure guards to the driven machines or to the foundations by heavy angle supports and angle bolts. Do not secure to motors and do not "bridge" the sound and vibration isolators. Guards shall permit movement of the motor to adjust belt tension, oiling, use of speed counters, and other maintenance and testing operations with guard in place.

B. Equip each fan which has blades or wheels exposed with a guard consisting of diamond mesh or welded wire screen. Openings in screen shall be no larger than ½". Guards shall be removable as required for access to fan parts which require adjustment and maintenance and shall be easily replaced.

3.06 ELECTRICAL MOTORS

A. All motors shall be of recognized American manufacturer wound for the voltage specified, and conform to latest standards of manufacture and performance of the National Electrical Manufacturers Association. Motors shall be rated for continuous duty at 100% of rated capacity, with temperature rise of 40 degrees centigrade for open type; 50 degrees centigrade for drip and splash proof; and 55 degrees centigrade for explosion proof and totally enclosed, above an ambient of 40 degrees centigrade.

B. Unless otherwise required, integral horsepower polyphase motors shall be Class B, general purpose, squirrel cage, open type induction motors. Single phase fractional horsepower motors shall be of the open capacitor type. Generally, motors 1/3 horsepower and less shall be split capacitor type unless otherwise specified. Motors rated 1/3 horsepower or less shall have integral overcurrent protection. The insulation resistance between stator conductors and frames of motors shall be not less than ½ megohm.

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C. Motors inside building shall be open type drip-proof. Motors outside building exposed to weather to be totally enclosed, fan-cooled. Motors in hazardous locations or duty shall be explosion proof of the type required for the service.

3.07 MOTOR AND EQUIPMENT CONTROL

A. Each motor or piece of electrical equipment will be provided with controllers or pilot devices as specified. Thermostats, humidistats, etc., which may control motors directly or indirectly are specified under "Automatic Controls System". Motors furnished with packaged equipment shall be furnished with contactors or starters and motor protective devices as specified under that equipment.

B. Furnish a complete typewritten list of motors or electrical equipment furnished under this division, showing for each one complete nameplate data including voltage, number of phases, full load amps, locked rotor amps and other applicable data. This list shall be turned over to the Owner with operating manuals specified elsewhere in this specification division.

3.08 WIRING

A. Unless specifically stated otherwise in the plans or specifications, provide all wiring and conduit for equipment and automatic controls specified in this division except wiring which is part of the electrical distribution system. Wiring of automatic temperature control devices, internal wiring of equipment, interlock and remote control wiring are included. Wiring of safety disconnects, motor starters, circuit protective devices and power connections to equipment are to be accomplished as part of wiring specified under Electrical Division of the specifications.

B. All automatic temperature control wiring shall be installed in conduit, and shall conform to requirements of the Electrical Division of these specifications. One-half inch conduit may be used and #18 AWG wiring may be used for low voltage control wiring.

3.09 WELDING

A. Welding of pipe joints shall conform to the applicable requirements of the American Standard Code for Pressure Piping (ASA B31.1-1951), and any later supplements that are in force.

B. Welders shall show proof satisfactory to the Engineer that they have passed qualification tests prescribed by and that they have been certified by the National Certified Pipe Welding Bureau or by other reputable agency, acceptable to the Engineer, using welding procedures as set forth in the ASME Boiler Construction Code, Section IX,

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“Welding Qualifications”. No welder shall be employed who does not meet the above requirements.

3.10 TEST AND ACCEPTANCE

A. Arrange for or conduct all tests and balancing operations necessary to put system into proper operating condition. These shall include testing of mechanical system components to assure proper operation and balance of air and water flows to provide rated quantities at each outlet or system component. Furnish a written tabulation indicating the results of these tests including specified and achieved quantities at each point in system where measurements were made.

B. Prior to balancing of system, flush out piping systems, clean strainers, replace filters in air systems and clean or replace other components as required or specified elsewhere in this division to assure proper results from balancing procedure.

C. Perform any other tests during construction or before final acceptance as specified elsewhere in this division.

3.11 STANDARD PRODUCTS

A. Each item of equipment furnished under these specifications, is to be essentially the standard product of the manufacturer.

B. All material and equipment shall be of the best quality normally used in good commercial practice, being products of reputable manufacture. Each major component shall bear a nameplate stating name and address of the manufacturer and catalog number or designation. All materials shall be of the manufacturer's latest design standard.

SECTION 15350
NATURAL GAS PIPING SYSTEMS

PART 1 – GENERAL

1.01 SECTION INCLUDES

System of natural gas piping including distribution and connection to every appliance to be furnished, installed, or connected.

1.02 SYSTEM DESCRIPTION

Provide complete and properly operating natural gas distribution system, including valves, meter, piping, regulators, and other appurtenances.

1.03 QUALITY ASSURANCE

Perform work in full compliance with the latest edition of the Arkansas Gas Code, Southern Standard Gas Code, NFPA Pamphlet #54, and requirements of local gas utility company. Coordinate all exterior work with utility company.

PART 2 – PRODUCTS

2.01 MATERIAL

- A. Pipe: Schedule 40 black steel assembled with malleable iron or welding fittings.
- B. Pipe Below Grade: Schedule 40 black steel, factory coated and wrapped, with Republic "X-Tru-Coat". Furnish straight length with factory-applied coating. Wrap fittings and damaged coating with TAPECOAT CT applied in accordance with manufacturer's latest printed instructions.
- C. Underground Gas Service Piping: Same as pipe below grade or plastic pipe conforming to ASTM – D2513.
- D. Meter Entrance Loop: Coated and wrapped with magnesium anode at ground penetration extending to shut-off, pound to ounce regulator and meter.

PART 3 – EXECUTION

3.01 INSTALLATION

- A. Install stop cock and pound-to-ounce pressure regulator at building entrance. Size as required.

15350 – NATURAL GAS PIPING SYSTEMS

- B. Enclose gas service below concrete slabs in black steel pipe with vents at each end. Ensure that vents open outside of building.
- C. Provide gas pressure regulator, or gas pressure regulator stations if so shown or required for proper regulation, in the gas service connection to each and every pipe of gas burning equipment furnished. Provide these regulators in addition to those furnished as pressure controls for basic service to building and for gas distribution system with its various points of pressure control within building.
- D. Vent regulators outside building and install in full accordance with NFPA Code and applicable state and local codes.

3.02 TESTING

After completion of work and before backfilling, test entire system to air pressure of 50 PSI for period of two hours in presence of local gas utility company or other local authority.

-SECTION 15401
DOMESTIC WATER SYSTEM

PART 1 – GENERAL

1.01 SYSTEM DESCRIPTION

Provide domestic water system consisting of hot and cold water piping required for each fixture or equipment item.

1.02 QUALITY ASSURANCE

Install system in accordance with National and State Codes regardless of possible conflicts in Specifications or on Drawings. Advise Architect/Engineer of changes required by Codes that will change design of building.

PART 2 – PRODUCTS

2.01 PIPE

- A. Above Ground: Type K or L copper, hard-drawn.
- B. Interior Under Slab: Type K copper, hard-drawn or soft-drawn.
- C. Interior Underground: Type L copper, hard-drawn or soft-drawn, PVC coated.
- D. Exterior Underground: Type L copper, hard-drawn or soft-drawn, PVC coated; install Schedule 40 or Schedule 80 PVC if noted on Drawings.

2.02 FITTINGS

Wrought copper.

2.03 SPECIALTIES

Impact Arrestors: SHOCK STOP by Wade.

PART 3 – EXECUTION

3.01 INSTALLATION

- A. Install service ball valves in hot and cold water at each fixture group, major equipment and water heaters.

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- B. Install insulating connection or union between copper and iron pipe as described by Arkansas Plumbing Code.
- C. Disinfect potable water piping by filling with a solution containing 50 parts per million of available chlorine. Allow this solution to stand 6 hours. Flush piping and equipment. Follow all requirements of the Arkansas Department of Health.
- D. At end of runouts to each individual fixture or fixture group, install impact arrestor on cold and hot water lines. Provide drains at low points in system.
- E. Test water system with air to pressure of 125 PSI for period of two hours. Prove tight by maintaining pressure without adding air.
- F. Use only lead-free solder.
- G. All piping below floor slab shall be installed in plastic sleeve.
- H. All water piping installed above ceilings, shall be installed under ceiling insulation for freeze protection.

SECTION 15405
DRAINAGE, SANITARY WASTE AND VENT SYSTEMS

PART 1 – GENERAL

1.01 SYSTEM DESCRIPTION

- A. Provide soil and waste system consisting of sanitary waste and vent piping required for each fixture, drain, or equipment item.
- B. Provide storm drainage system to serve roof and trench drains within or outside building.
- C. Install system in accordance with National and State Codes regardless of possible conflicts in Specifications or Drawings. Advise Architect/Engineer of changes required by Codes that will change design of building.

PART 2 – PRODUCTS

2.01 DRAINAGE, SANITARY WASTE AND VENT PIPE

- A. Below Slab Pipe: Bell and spigot cast iron soil pipe, lead caulked or gasketed, service weight. Schedule 40 or Schedule 80 PVC if noted on plans and approved by state and local codes.
- B. Above Slab Pipe: Service weight or no-hub cast iron soil pipe, assembled in accordance with manufacturer's recommendations with Husky Series 4000 no-hub stainless steel couplings.
- C. Fixture Branch Arms: D.W.V. copper with D.W.V. with wrought or cast brass sweat fittings using 50-50 solder.

PART 3 – EXECUTION

3.01 INSTALLATION

- A. Locate cleanouts as required by State and Local Codes and as shown on the Drawings. Place cleanouts at intervals of not more than 50 feet. Bring cleanouts to accessible location, flush with grade or floor, and terminate with fitting equal to that specified elsewhere.
- B. Accomplish horizontal offsets in sanitary and waste pipe with 1/16, 1/8, or 1/6 bends, with preference given in order named. Accomplish horizontal intersections with 45 degree or 60 degree "Y" branches, or combination "Y" and 1/8 bends, with preference given to order named. Use sanitary tees or crosses on vertical lines for fixture connection

DRAINAGE, SANITARY WASTE AND VENT SYSTEMS

15405 – DRAINAGE, SANITARY WASTE AND VENT SYSTEMS

and intersection between vertical and horizontal lines, except long-sweep quarter bends will be permitted.

C. Install horizontal runs of sanitary and waste and vent lines at even grade of at least 1/8-inch per foot without sag or pockets, unless otherwise shown.

D. Vent every fixture and trap as scheduled under "Fixture Installation". Vent as close as possible to trap on sewer side.

E. Secure stacks at base and branches at close intervals to keep system in alignment and to adequately support system.

F. Support above grade horizontal runs of no-hub cast iron pipe immediately on each side of no-hub clamp and as otherwise specified.

3.02 TESTING

Test entire waste and vent system to minimum head of ten feet. Maintain this pressure minimum three hours.

SECTION 15782

HEATING AND COOLING EQUIPMENT

3 TO 12 TONS NOMINAL

Part 1 — General

1.01 SYSTEM DESCRIPTION

Outdoor rooftop mounted, electrically controlled heating and cooling unit utilizing a hermetic compressor(s) for cooling duty and gas combustion for heating duty. Unit shall discharge supply air vertically or horizontally as shown on contract drawings.

1.02 QUALITY ASSURANCE

- A. Unit shall comply with the minimum requirements of ASHRAE 90.1-2001 Energy Efficiency Standard.
- B. Unit shall be rated in accordance with ARI Standards 210/240 or 360 and 270. Designed in accordance with UL Standard 1995.
- C. Unit shall be designed to conform to ASHRAE 15, latest revision.
- D. Unit shall be UL-tested and certified in accordance with ANSI Z21.47 Standards and UL-listed and certified under Canadian standards as a total package for safety requirements.
- E. Roof curb shall be designed to conform to NRCA Standards.
- F. Insulation and adhesive shall meet NFPA 90A requirements for flame spread and smoke generation.
- G. Unit casing shall be capable of withstanding 500-hour salt spray exposure per ASTM B117 (scribed specimen).
- H. Unit shall be designed in accordance with ISO 9001, and shall be manufactured in a facility registered to ISO 9002/BS5750, Part 2.
- I. Each unit shall be subjected to a completely automated run testing on the assembly line. Units contain a factory-supplied printout indicating tested pressures, amperages, data, and inspectors; providing certification of the unit status at the time of manufacture.

1.03 DELIVERY, STORAGE, AND HANDLING

Unit shall be stored and handled per manufacturer's recommendations.

Part 2 — Products

2.01 EQUIPMENT (STANDARD)

- A. General:

Factory assembled, single-piece heating and cooling unit. Contained within the unit enclosure shall be all factory wiring, piping, controls, refrigerant charge (R-22), and special features required prior to field start-up.

B. Unit Cabinet:

1. Unit cabinet shall be constructed of galvanized steel, and shall be bonderized and coated with a prepainted baked enamel finish on all externally exposed surfaces.
2. Evaporator fan compartment interior cabinet surfaces shall be insulated with a minimum $\frac{1}{2}$ -in. thick, 1 lb. density, flexible fiberglass insulation, neoprene coated on the air side. Aluminum foil-faced fiberglass insulation shall be used in the gas heat compartment.
3. Cabinet panels shall be easily removable for servicing.
4. Holes shall be provided in the base rails for rigging shackles to facilitate maneuvering and overhead rigging.
5. Unit shall have a factory-installed, sloped condensate drain pan made of a non-corrosive material, providing a minimum $\frac{3}{4}$ -in.-14 NPT. connection with both vertical and horizontal drains, and shall comply with ASHRAE Standard 62.
6. Unit shall have a factory-installed filter access panel to provide filter access with tool-less removal.
7. Unit shall have standard thru-the-bottom gas and power connection capability (accessory kit is required).

C. Fans:

1. Evaporator Fan:
 - a. Fan shall be direct or belt driven as shown on the equipment drawings. Belt drive shall include an adjustable-pitch motor pulley.
 - b. Fan wheel shall be double-inlet type with forward-curved blades.
 - c. Bearings shall be sealed, permanently lubricated ball-bearing type for longer life and lower maintenance.
2. Evaporator fan shall be made from steel with a corrosion-resistant finish and shall be dynamically balanced.
3. Condenser fan shall be of the direct-driven (with totally enclosed motors) propeller type and shall discharge air vertically.
4. Condenser fan shall have aluminum blades riveted to corrosion-resistant steel spiders and shall be dynamically balanced.
5. Induced-draft blower shall be of the direct-driven, single inlet, forward-curved centrifugal type, made from steel with a corrosion-resistant finish and shall be dynamically balanced.

D. Compressor(s):

1. Fully hermetic, internally protected, reciprocating type or scroll-type.
2. Factory mounted on rubber grommets and internally spring mounted for vibration isolation.
3. On independent circuits (7.5-tons or larger)

E. Coils:

1. Standard evaporator and condenser coils shall have aluminum lanced plate fins mechanically bonded to seamless internally grooved copper tubes with all joints brazed.
2. Dual compressor models (7.5-tons or larger) shall have face-split type evaporator coil.

F. Heating Section:

1. Induced-draft combustion type with energy saving direct-spark ignition system and redundant main gas valve.
2. The heat exchanger shall be of the tubular- section type constructed of a minimum of 20-gage steel coated with a nominal 1.2 mil aluminum-silicone alloy for corrosion resistance.
3. Burners shall be of the in-shot type constructed of aluminum-coated steel.
4. All gas piping shall enter the unit cabinet at a single location on side of unit.
5. The integrated gas controller (IGC) board shall include gas heat operation fault notification using an LED (light-emitting diode).
6. Unit shall be equipped with anti-cycle protection with one short cycle on unit flame rollout switch or 4 continuous short cycles on the high-temperature limit switch. Fault indication shall be made using an LED.
7. The IGC board shall contain algorithms that modify evaporator-fan operation to prevent future cycling on high-temperature limit switch.
8. The LED shall be visible without removal of control box access panel.

G. Refrigerant Components:

Refrigerant circuit components shall include:

1. Fixed orifice metering system (Acutrol™).
2. Refrigerant filter drier.
3. Service gage connections on suction, discharge, and liquid lines.

H. Filter Section:

1. Standard filter section shall consist of factory-installed, low velocity, throwaway 2-in. thick fiberglass filters of commercially available sizes.
2. Filter face velocity shall not exceed 320 fpm at nominal airflows.
3. Filter section should use only one size filter.
4. Filters shall be accessible through an access panel with "no-tool" removal.

I. Controls and Safeties:

1. Unit Controls:

Unit shall be complete with self-contained low-voltage control circuit protected by a fuse on the 24-v transformer side (008-014 units have a resettable circuit breaker).

2. Safeties:

a. Unit shall incorporate a solid-state compressor protector which provides anti-cycle reset capability at the space thermostat, should any of the following standard safety devices trip and shut off compressor.

- 1) Compressor overtemperature, overcurrent.
- 2) Loss-of-charge/low-pressure switch.
- 3) Freeze-protection thermostat, evaporator coil.
- 4) High-pressure switch.
- 5) Automatic reset motor thermal overload protector.

The lockout protection shall be easily disconnected at the control board, if necessary.

b. Heating section shall be provided with the following minimum protections:

- 1) High-temperature limit switches.
- 2) Induced draft motor speed sensor.
- 3) Flame rollout switch.
- 4) Flame proving controls.

J. Operating Characteristics:

1. Unit shall be capable of starting and running at 115 F ambient outdoor temperature, meeting maximum load criteria of ARI Standard 210/240 or 360 at $\pm 10\%$ voltage.
2. Compressor with standard controls shall be capable of operation down to 25 F ambient outdoor temperature.

K. Electrical Requirements:

All unit power wiring shall enter unit cabinet at a single factory-predrilled location.

L. Motors:

1. Compressor motors shall be cooled by refrigerant gas passing through motor windings and shall have line break thermal and current overload protection.
2. Evaporator-fan motor shall have permanently lubricated bearings and inherent automatic-reset thermal overload protection. Motors are designed and qualified in the "air-over" location downstream of the cooling coil and carry a "maximum continuous bhp" rating that is the maximum application bhp rating for the motor; no "safety factors" above that rating may be applied.
3. Totally enclosed condenser-fan motor shall have permanently lubricated bearings, and inherent automatic-reset thermal overload protection.
4. Induced-draft motor shall have permanently lubricated sealed bearings and inherent automatic-reset thermal overload protection.

M. Special Features:

1. Roof Curbs (Vertical):
 - a. Formed galvanized steel with wood nailer strip and shall be capable of supporting entire unit weight.
 - b. Permits installation and securing of ductwork to curb prior to mounting unit on the curb.
2. Integrated Economizer:
 - a. Shall be factory-installed and shall include all hardware and controls to provide cooling with outdoor air.
 - b. Shall be gear-driven parallel blade design.
 - c. Equipped with low-leakage dampers, not to exceed 2% leakage at 1 in. wg pressure differential.
 - d. Capable of introducing up to 100% outdoor air.
 - e. Shall be equipped with a barometric relief damper.
 - f. Designed to close damper(s) during loss-of-power situations spring return built into motor.
 - g. Provide indoor and outdoor enthalpy sensors as required for differential enthalpy control (field-installed).
 - h. Economizer's microprocessor controller shall provide control of internal building pressure through its accessory power exhaust function. Factory set at 100%; with a range of 0% to 100%.
 - i. Economizer's Microprocessor Minimum Damper Position Setting – potentiometer maintains the minimum airflow into the building during occupied period (damper position during heating).

- j. Economizer's Microprocessor Maximum Damper Position Setting – potentiometer allows installer to limit the amount of outdoor airflow into the building, when CO₂ overrides the mixed air sensor. Setting the maximum position of the damper prevents the introduction of large amounts of hot or cold air into the space.
- k. Economizer's Microprocessor IAQ control- modulates the outdoor air damper to provide ventilation based on the optional 2-10vdc CO₂ sensor input.
- l. Compressor lockout sensor (Opens at 35 deg. F closes at 50 deg. F)
- m. Provide CO₂ sensor for duct mount and its set point shall have adjustment capability.

6. Power Exhaust Accessory for Economizer

Power exhaust shall be used in conjunction with economizer to provide system exhaust of up to 100% of return air (vertical only). The power exhaust is a field-installed accessory.

As the outdoor-air damper opens and closes, both propeller fans are energized and de-energized through the end switch (potentiometer) located on the Economizer's controller. The end switch is factory set at 100% of outdoor-air, and shall be adjustable 0-100% to meet specific job requirements. An LED light on the controller indicates when the power exhaust is operating.

7. Electronic Thermostat:

Provide electronic non-programmable thermostat: 2-stg heat/2-stg cool, manual 4 hrs override, aux. input.

8. Condenser Coil Hail Guard Assembly:

Hail guard shall protect against damage from hail and flying debris.

Part 3 — Products

3.01 System Start-UP

- A. Start-up of all units shall be supervised by a factory – certified technician; this technician shall certify that each unit is installed and operating according to manufacturer's specifications.
- B. Start up heating and air conditioning systems and place them in proper operating condition. This start up shall include test firing burners, adjusting and testing function of all controls, adjustment of fan drives, balancing of air systems, and any other work required to assure proper system operation.
- C. Install new filters prior to turning building over to Owner, plus furnish three sets of spare filters for each unit.

END OF SECTION

SECTION 16010

BASIC ELECTRICAL REQUIREMENTS

PART 1 - GENERAL

1.1 SECTION INCLUDES

- A. Basic electrical requirements specifically applicable to Division 16 sections in addition to applicable Division 01 sections of the Specifications. The Engineer (or Architect) shall herein be the A/E.

1.2 COORDINATION

- A. The electrical work shall be installed in cooperation with other trades installing inter-related work. Coordinate all conduit runs to miss mechanical ducts as shown on mechanical sheets and at building.
- B. Anchor bolts, sleeves, inserts, and supports shall be installed by this subcontractor.
- C. Contact Engineer three days prior to pouring of slabs to verify floor outlet locations.

1.3 SUBMITTALS

- A. Deviation from the Drawings and Specifications shall be called to the attention of the Architect in writing at the time of submission of the Shop Drawings. The Engineer's checking of any drawing shall not release the subcontractor from responsibility for such deviations.
- B. The Contractor shall furnish seven (7) complete sets of certified Shop Drawings. Submittals must be one installment in bound manual with title sheet and numbered index at the beginning. Piecemeal submittals will be returned without consideration. Shop Drawings are required even though the equipment is as specified. All submittals shall give complete catalog data for every manufactured item of equipment and all components to be used. Partial list of submittals as follows: wire and cable, devices, panels with circuit numbers shown, ballasts, disconnect switches, fixtures, lamps, conduit, fire alarm.
- C. Where equipment requiring different arrangement of connections from those shown is approved, it shall be the responsibility of the subcontractor to install the equipment to operate properly and in harmony with the intent of the

Contract Documents, and to make all changes in the work required by the different arrangement of connections and pay all charges resulting from changes.

- D. Submittals shall include physical dimensions of electrical equipment.

1.4 CODES, ORDINANCES, INSPECTIONS AND PERMITS

- A. Obtain and pay for required fees, permits, and inspections for electrical work.
- B. Perform Work in accordance with N.E.C., N.F.P.A., U.L., local codes and N.E.C.A. (latest version).

1.5 DELIVERY, STORAGE AND HANDLING

- A. Place stored materials on clean, hard surfaces above ground and keep covered at all times to ensure protection from paint, plaster, dust, water and other construction debris or operations.
- B. Install heaters under the protective cover where the equipment may be damaged due to moisture and weather conditions.
- C. Keep conduit ends plugged or capped, and all covers closed on boxes, panels, switches, fixtures, etc., until installation of each item.
- D. Store all plastic conduit or duct out of direct sunlight in shaded areas.
- E. Stored materials and equipment shall be located to facilitate prompt inspection.

1.6 ACCURACY OF DATA

- A. The data given herein and on the Drawings are as exact as could be secured, but their absolute accuracy is not guaranteed. Exact locations, distances, levels, etc., will be governed by the building, and the Contractor shall use the data contained herein with this understanding.
- B. The Contractor shall verify all measurements at the building and shall be responsible for the correctness of same. No extra compensation will be allowed because of differences between work on the Drawings and measurements of the building.

1.7 INTENT OF DRAWINGS AND SPECIFICATIONS

- A. The intent of the Electrical Drawings and Specifications is that the subcontractor shall furnish all labor and materials, equipment and transportation necessary for the proper execution of the work. This subcontractor shall thoroughly examine the Drawings and Specifications relating to other trades in order to include all necessary work in his bid. No additional payments shall be considered for failure to properly interpret the responsibilities to other trades. The subcontractor shall do all the work shown on the Drawings and described in the Specifications and all incidental work necessary to complete the Project in a substantial and acceptable manner, and to fully complete the work ready for use, occupancy, and operation by the Owner. The A/E reserves the right to make any reasonable changes up to six feet (6') in the locations indicated without additional cost to Owner.

1.8 OPERATING AND MAINTENANCE MANUALS

- A. Deliver to the A/E for the Owner's use, two complete operating and maintenance manuals covering all equipment and systems installed by this Division.
- B. Include approved equipment and material submittals, parts lists, wiring diagrams, and operating instructions for all operating equipment.
- C. Bind brochures in hard back three ring binder and tab indexed. Label front cover and back spine indicating project name. Include page showing data and local responsible vendors with addresses and telephone numbers and furnishing parts and information on equipment.

1.9 OBSERVATION OF WORK

- A. The A/E will make final onsite review of the Work of this division, prepare punch list, and visit the job site to check the punch list.
- B. If additional trips are required to the job because the Contractor did not perform the work as shown and called for on the punch list, then the Contractor shall reimburse the A/E for charges at the rate of \$125.00 per hour plus 35 cents per mile for travel expenses.
- C. The Contractor shall allow the Engineer access to all parts of the Work and shall furnish assistance and information as required by the Engineer.

1.10 PROJECT RECORD DRAWINGS

- A. The Contractor shall store the Project record drawings on the project site. Each day he shall make corrections and additions with colored pencil with date and authorization of change. He shall locate all underground and concealed work. Project record drawings shall be complete in every detail.
- B. The Contractor shall transfer information from Project record drawings to tracings or mylars of original drawings so Owner may reproduce copies as required. Contractor shall pay for tracings or mylars. Project record drawings must be submitted to the Architect before project will be accepted.

1.11 INSPECTION OF SITES

- A. Inspect the site and become thoroughly familiar with conditions to be met and the work to be accomplished. At existing building sites verify prior to bid all conditions shown affecting work.

1.12 SAFETY AND WORK METHODS

- A. Refer to General Conditions.
- B. The Electrical Subcontractor is completely responsible for how all of his work is performed; safety, in, on, or about the job site; methods of performance; and timeliness in such performance. In the event he is unsatisfied with the performance of other trades, he shall set forth such complaints in writing for the Owner's review. In no event shall this subcontractor expect to be specifically directed in the protection of personnel or material by the Owner, Architect, or Engineer.

1.13 NOISE AND VIBRATION CONTROL

- A. Isolate noise generating equipment and all equipment mounted to building including A/C units, ballast, etc., with flexible conduit to prevent transmission of noise through conduit system.

1.14 PAINTING

- A. Repair finish surfaces damaged by Work of this section.
- B. Paint equipment and material furnished and installed under this section that has only a prime coat of paint. Use color and brand of paint selected by Architect.
- C. All "exposed to view" conduit, boxes, panels, etc. to be primed and painted with color selected by Architect.

1.15 TEMPORARY CONSTRUCTION POWER

- A. This Contractor shall furnish and install temporary construction power wiring as required. Temporary electrical service shall be obtained in the name of the General Contractor, and it will be the General Contractor's responsibility to pay all power company charges. The temporary service shall be obtained from the local utility company. Provide temporary lighting as required for adequate illumination for construction and safety purpose.

1.16 LICENSING REQUIREMENT

- A. No person shall perform electrical work on the contract without possessing an Arkansas State Master or Journeyman License from the Arkansas State Electrical Examiners Board. All electrical work and apprentice electricians shall be supervised as required by State law.
- B. All electricians shall have a copy of their license with them and shall be required to show it to an appropriate inspector upon request.

PART 2 - PRODUCTS

2.1 MATERIAL AND EQUIPMENT

- A. In order to establish standards of quality, the Engineer has referred to certain products by name and catalog number. This procedure is not to construed as eliminating from competition other products of equivalent or better design. Where multiple manufacturing sources are shown on the Drawings or herein specified, the subcontractor shall limit his bid to one of those manufacturers.
- B. Electrical fixtures, appliances, hardware, switch gear, panel boards, boxes and other items related in any manner to electrical work shall be considered; however, it will be at the discretion of the Architect and the electrical engineer to evaluate "equal" as a substitution to that as specified. It will be the responsibility of the bidder for the substituted item's approval. Should item be deemed "not equal" by the Architect and electrical engineer, then the bidder must supply the item as specified without additional cost to the Owner or any design team member.
- C. The subcontractor shall abide by the Engineer's judgment when proposed substitute materials or items of equipment are judged to be unacceptable and shall furnish the specified material or item of equipment in such case. All proposals for substitution shall be submitted in writing by the General

Contractor and not by the Electrical Subcontractor or material suppliers. The Engineer will approve or disapprove proposed substitutions in writing. If any request for a substitution is rejected, the Contractor shall automatically furnish material specified. All materials shall be new and shall bear the manufacturer's name and the Underwriters Laboratory label. Materials of the same general type shall be the same throughout the job to provide uniform appearance, operation, and maintenance.

- D. Delivery and Storage: Equipment and materials shall be delivered to the site and stored in original containers. All items subject to moisture damage (such as coils of dry transformers) shall be stored in dry, heated space. At the completion of the work, fixtures, equipment, and materials shall be cleaned and polished thoroughly and turned over to the Owner in a condition satisfactory to the Architect. Damage or defects developing before acceptance of the work shall be made good at no expense to the Owner.

2.2 LABELING

- A. Each major component of equipment shall have a nameplate listing the manufacturer's name, address, catalog and serial number. The nameplate shall be brass, aluminum or other durable material attached to the equipment in a conspicuous location. Nonferrous identifying tags or pressure-sensitive labels shall be provided for all cables, feeders, and power circuits in vaults, pull boxes, manholes and switchboard rooms at cable termination and in other locations.
- B. Tags or labels shall be stamped or printed to correspond with markings on the as-built drawings so that feeder or cable may be readily identified. Electrical equipment, safety switches, time clock, starters, panels and transformers shall have black and white laminated bakelite nameplates securely fastened to device with screws and be exposed. Edge of plates shall be beveled. Letters shall be white with black field. Letters shall be 3/8-inch upper case. Nameplate shall state its purpose and the voltage of the equipment. 120 or 240 volt equipment shall have black; 480 volts red.
- C. Provide "Flash Protection" label as per NEC.

2.3 FLASHING

- A. For roof penetrations, furnish copper pitch pans for watertight flashing installation by roof membrane installer.
- B. Pitch pan shall have minimum of one inch of pitch on all sides of conduit.

2.4 ACCESS PANELS

- A. Furnish access panels as required to service electrical devices.
- B. Access doors shall be equal to the following MILCOR Types, or equal:
 - 1. Style A Door for Acoustical Tile.
 - 2. Style B Door for Acoustical Plaster.
 - 3. Style K Door for Plastered Surfaces.
 - 4. Style M Door for Masonry, Wallboard, Etc.
 - 5. Fire-rated Door where required.
- C. Furnish size and type as required for proper service or as shown on Drawings for specific locations.

2.5 WIRING NOT IN RACEWAY

- A. Where the Drawings or Specifications allow communication system wiring to be run without raceways, the Contractor shall supply plenum-rated wire where wiring penetrates air plenums, whether indicated or not.

2.6 ARRESTORS

- A. Where a data, telephone, fire alarm, intercom or similar cable is specified for the project; provide arrestors at all cable entrances as per code.

PART 3 - EXECUTION

3.1 CUTTING AND PATCHING

- A. Provide cutting and patching required to perform the electrical work. Do not cut structural members except through explicit instructions of the Architect/Engineer. Accomplish patching with workmen skilled in the trade required. Perform cutting and fitting in rough construction phases of the work.
- B. Seal penetrations with fire-rated sealant equal to or greater than the fire rating of the wall.

3.2 ACCESSIBILITY

- A. Install in an accessible location, all junction boxes, starters, relays, light fixtures, and other items that may require servicing or repairing.

3.3 CLEARANCES

- A. Maintain clearances in front of electrical equipment as required by code. Report discrepancies to A/E PRIOR TO ROUGH-IN.

- B. Submit $\frac{1}{2}$ " = 1'-0" scale plan showing layout of electrical equipment.

3.4 EXCAVATING, TRENCHING, AND BACKFILLING

- A. Excavate and trench as required to install portion of the electrical systems required to be located below grade. Arrange cutting of streets and walks with governing authorities and patch cuts to conform to their requirements.
- B. Protect roots of trees designated to remain. Perform trenching within the branch spread by hand. When trench is opened, install the utility immediately, prune injured roots cleanly, and backfill as soon as possible.
- C. Keep trenches free from water while construction therein is in progress. Conduct discharge from dewatering to drains or natural drainage channels.
- D. Backfill trenches only after required electrical system tests have been completed. Backfill and tamp in 6-inch layers with materials free of large stones or clods of earth to cover of 12 inches. Backfill the remainder of trenches in 12-inch layers. Do not use blasted rock, broken concrete or large boulders for backfill. Backfill entire depth of trenches to be covered with roads, walks, or concrete slabs in 6 inch layers, compacting each layer to 95 percent of maximum dry density at or near optimum moisture content as determined by Standard Proctor procedures, ASTM D698.
- E. Ensure that buried lines have a minimum of 30-inch cover. Install marking tape above all feeder conduits, telephone and data lines. Do not install utility lines beyond 2 feet from the building until rough grading is completed. Allow for finished grading operations to ensure adequate final cover over lines.

3.5 WIRING

- A. Electrical wiring for mechanical equipment or equipment furnished by others is separated into two main wiring divisions: (1) Power wiring by Electrical Contractor and (2) Control wiring by Mechanical Contractor.
- B. Power wiring shall be the energy source and shall include installation of circuit protective devices, controller, conduit, wiring, and safety disconnects from power supply, and terminating at the motor or appropriate terminals on equipment. Install starters as required.
- C. Control wiring shall comprise conduit and wiring not included in power wiring or noted above. This wiring shall include low voltage automatic temperature control wiring, safety and interlocking wiring, push button starting, pilot light, and signal wiring, etc., that is not included as part of safety equipment.

- D. The Electrical Contractor shall install all wiring and equipment specifically shown on the Electrical Drawings.
- E. All telephone, data and similar wiring shall be permanently marked. In addition a wiring schedule shall be placed on the as-builts.

3.6 CONNECTION OF EQUIPMENT NOT SPECIFIED IN THIS DIVISION

- A. Provide necessary materials and make connections to equipment requiring electrical power.
- B. Rough-in for connection of this equipment according to shop drawings furnished with the equipment or by actual measurements taken from equipment on site. Provide junction boxes, disconnect switches, etc., required to properly connect each piece of equipment unless specifically stated otherwise.

3.7 UTILITIES LOCATIONS, METERS, AND CONNECTIONS

- A. Arrange with proper authorities and utility companies for service connections, verifying locations and arrangements. Pay all costs of service as shown and provide all required conduits, meter bases wiring for indicated service. Contact the serving utility prior to bid and include all cost of utility services in bid.
- B. When connections to existing lines, rerouting of utility lines, modifications to services, etc., would interrupt service or interfere with normal use of the buildings, arrange work such that outages are minimized and schedule outages to occur at times satisfactory to the Owner.
- C. Before ordering equipment and proceeding with Work, verify with the utility company existing or available voltages shown on Drawings. If voltage differs from that noted on the Drawings and in the Specifications; notify the Engineer immediately.
- D. Transformers: Locate utility transformer pads so as to provide code (and Utility) required clearances from building. Verify prior to bid.

3.8 APPEARANCE OF WORK

- A. Arrange and install exposed portions on Work specified under this division such as devices, fixtures, panels, and safety switches to fit in and harmonize with Work specified in other divisions.

- B. Run conduits concealed in chases, attics or cable trenches unless indicated otherwise. Run conduit exposed to view in mechanical rooms and electrical equipment rooms.
- C. Run conduit parallel or perpendicular to building lines.

3.9 TESTS

- A. Test panel feeders, motor circuits, and conductors larger than #6 with a 600 volt Megger to prove insulation resistances. Record readings on Contractor's letterhead and submit three copies of tabulated results to A/E prior to final inspection.
- B. Upon completion of installation of equipment, work with other trades to start equipment and make necessary test and adjustments to place systems in first-class operating condition.
- C. Test grounding electrode system to verify compliance with N.E.C. requirements. Submit results to A/E.
- D. Demonstrate in the presence of the Engineer testing of the emergency power system, the interface between the fire alarm and sprinkler system, the interface between the fire alarm and HVAC control systems and the interface between the fire alarm and elevator controls.

3.10 GUARANTY PERIOD

- A. Electrical Contractor shall warrant equipment furnished and work performed for a period of one year from date of written acceptance of work. This guarantee shall cover patching, refinishing, etc., required to restore faulty condition at no additional expense to Owner.

3.11 CLEANING

- A. At completion of work, clean and polish fixtures, equipment, and materials.

3.12 CONFLICT

- A. If there is a conflict between Drawings and Specifications, provisions of the most stringent shall control. Drawings and Specifications are complementary; work required by one, but not required by the other, shall be performed as though required by both.

3.13 MOTOR CONNECTIONS

- A. Wherever equipment requiring electrical connection is specified, power wiring shall be furnished and installed under applicable sections of Electrical Division of Specifications. Starting switches, protective devices, and other means for operation and control of equipment shall be furnished under applicable equipment sections but shall be installed under applicable electrical section, unless specifically noted otherwise on Drawings. Additional disconnects required by National Electrical Code shall be furnished, installed, and connected by Electrical Contractor. Motor terminals or equipment connections shall terminate in a junction box or disconnect adjacent to equipment. See Mechanical Plan for exact location of motors.

- B. Install conduit and boxes for thermostats. Obtain count and location from mechanical Drawings. Extend conduit from thermostat box to equipment. If thermostat conduits are shown to be included under the mechanical section then that section shall take precedence.

END OF SECTION

PRE-FINAL PROJECT OBSERVATION CHECK LIST

Complete this form and forward to the Engineer's office three business days prior to the requested Final Project Observation date.

Forward this form to: Lucas, Merriott & Associates
 2225 West Seventh Street
 Little Rock, Arkansas 72201
 Phone: 501.374.3522
 FAX: 501.375.7505

	ITEM	YES	NO
1.	Polarity of all receptacles shall be tested. GFI receptacles shall be tested. *		
2.	Test all emergency lighting by turning circuit breakers off.		
3.	Provide typed panel directories.		
4.	Obtain certification letter from Fire Alarm Vendor indicating the system has been tested and is fully operational.		
5.	Clean fixture lenses and reflectors.		
6.	Provide Owner with spare lamps, parts, keys, etc. as specified for this project.		
7.	All junction boxes shall have covers and shall be labeled with the circuit number(s).		
8.	Clean all switchgear and provide designation label.		
9.	Remove paint from all devices and device plates.		
10.	Replace all burned out lamps.		
11.	Megger test reports (attach with this form)		
12.	Ground and bonding connections to cold water pipe, building steel, ground rods, etc.		

*test with ECOS #1019 or similar tester

All of the items must be met prior to the Final Project Observation.

Requested Final Project Observation date: _____

Signature of Electrical Contractor: _____

**SECTION 16050
SEISMIC PROTECTION**

PART 1 - GENERAL

1.1 GENERAL

A. The requirements for seismic protection measures to be applied to electrical equipment and systems specified herein are in addition to any other items called for in other sections of these specifications. Electrical equipment shall include the following items to the extent required on plans or in other sections of these specifications:

1. Light fixtures
2. Motor control centers
3. Switchboards (floor mounted)
4. Engine-driven generators
5. Switchgear
6. Unit substations
7. Transformers
8. Light fixtures

1.2 CONDUIT NOT REQUIRING SPECIAL SEISMIC RESTRAINTS

- A. Seismic restraints may be omitted from the following installations:
- B. All electrical conduit less than 2 1/2" inside diameter
- C. All conduit suspended by individual hangers 12" or less in length from the top of pipe to the bottom of the support for the hanger.

1.3 SHOP DRAWINGS

A. Shop drawings along with catalog cuts, template, and erection and installation details, as appropriate, for the items listed below shall be submitted. Submittals shall be complete in detail; shall indicate thickness, type, grade, class of metal, and dimensions; and shall show construction

details, reinforcement, anchorage, and installation with relation to the building construction.

PART 2 - PRODUCTS

2.1 BOLTS AND NUTS

- A. Squarehead bolts and heavy hexagon nuts: ANSI B1 8.2.1 and B1 8.2.2, and ASTM A307 or A576.
- B. Bolts, underground: ASTM A325

2.2 SWAY BRACE

- A. Materials used for member listed in Table I of this specification shall be structural steel conforming with ASTM A36.

PART 3 - EXECUTION

3.1 SWAY BRACE

- A. Sway brace shall be installed on conduit not otherwise rigidly anchored to preclude damage during seismic activity. Bracing shall conform to approved arrangements. Provisions of this paragraph apply to all conduit within a 5'-0" line around outside of building unless buried in the ground. Hanger rods shall be increased in cross sectional area proportionate to the increased weight per linear foot of pipe and contents supported at each trapeze hanger. No trapeze-type hanger shall be secured with less than two 1/2" bolts.
- B. TRANSVERSE SWAY BRACING: Transverse sway bracing shall be provided at intervals NOT TO EXCEED 30'-0".
- C. LONGITUDINAL SWAY BRACING: Longitudinal sway bracing shall be provided at 40'-0" intervals.
- D. VERTICAL RUNS: Vertical runs of conduit shall be braced at not more than 10'-0" vertical intervals.
- E. ANCHOR RODS, ANGLES, AND BARS: Anchor rods, angles, and bars shall be bolted to either conduit clamps at one end and cast-in-place concrete or masonry insert or clip angles bolted to the steel structure on the other end. Rods shall be solid metal or pipe as specified hereinafter. Anchor rods, angles, and bars shall not exceed lengths given in Table I.

- F. **BOLTS:** Bolts used for attachment of anchors to pipe and structure shall be not less than 1/2" diameter.

**TABLE I
MAXIMUM LENGTH FOR BRACING MEMBERS**

TYPE	SIZE	MAXIMUM LENGTH*	ALLOWABLE LOADS* (Kips)
ANGLES	1-1/2" x 1-1/2" x 1/4"	4'-10"	5.7
	2" x 2" x 1/4"	6'-6"	7.8
	2-1/2" x 1-1/2" x 1/4"	8'-0"	9.8
	3" x 2-1/2" x 1/4"	8'-10"	10.8
	3" x 3" x 1/4"	9'-10"	11.9
RODS	3-4"	3'-1"	3.7
	7-8"	3'-8"	5.0
FLAT BARS	1-1/2" x 1/4"	1'-2"	3.1
	2" x 1/4"	1'-2"	4.1
	2" x 3/8"	1'-9"	6.2
PIPES (40S)	1"	7'-0"	4.1
	1-1/4"	9'-0"	5.5
	1-1/2"	10'-4"	6.6
	2"	13'-1"	8.9

* Based on the slenderness of $1/r = 200$ and ASTM A36 steel.

3.2 SPREADERS

- A. Spreaders shall be provided between racked or adjacent conduit runs to prevent contact during seismic activity whenever surfaces are less than 4" apart or four times the maximum displacement due to seismic force. Spreaders to be applied at same interval as sway braces.

3.3 ANCHOR BOLTS

- A. All floor or pad mounted equipment will have a minimum of four anchor bolts securely fastened through base. Two nuts shall be provided on each bolt. Anchor bolts shall have an embedded straight length equal to at least 10 times the nominal diameter of the bolt and shall conform to the following Tables of sizes for various equipment weights, in accordance with ASTM A325 and A576.

MAXIMUM EQUIPMENT WEIGHT (POUNDS)	MINIMUM BOLT SIZES* (INCHES)
500	3/8
1.000	1/2

5,000	5/8
10,000	3/4
20,000	7/8
30,000	1
50,000	1-1/4
100,000	1-1/2

* Based on four bolts per item, use equivalent total cross sectional areas when more than four bolts per item are provided. Anchor bolts that exceed normal depth of equipment foundation piers or pads shall either extend into concrete floor or the foundation shall be increased in depth to accommodate bolt lengths.

- B. When height-to-width ratio of the equipment exceeds 8.9, overturning must be investigated.

3.4 EQUIPMENT SWAY BRACING

- A. Equipment sway bracing shall be provided for all items supported from overhead floor or roof structures. Braces shall consist of angles, rods, bars, or pipes run at a 45° angles.

3.5 LIGHTING FIXTURES IN BUILDING

- A. In addition to the requirements of the preceding paragraphs, lighting fixtures and supports will conform to the following:

3.6 MATERIALS AND CONSTRUCTION

- A. Fixture supports shall be malleable iron.
- B. Loop and hook or swivel hanger assemblies for pendant fixtures shall be fitted with a restraining device to hold the stem in the support position during earthquake motions. Pendant supported fluorescent fixtures shall also be provided with a flexible hanger device at the attachment to the fixture channel to preclude breaking of the support. The motion of swivels or hinged joints shall not cause sharp bends in conductors or damage to insulation.
- C. Recessed fluorescent individual or continuous row fixtures shall be supported by a seismic resistant suspended ceiling support system and shall be bolted thereto at each corner of the fixture; or shall be provided with fixture support wires attached to the building structural members using 2 wires for individual fixtures and 1 wire per unit of continuous row fixtures.

- D. A supporting assembly that is intended to be mounted on an outlet box shall be designed to accommodate mounting features on 4" boxes, 3" plaster rings, and fixture studs.
- E. Surface mounted fluorescent individual or continuous row fixtures shall be attached to a seismic resistant ceiling support system. Fixture support devices for attaching to suspended ceilings shall be a locking-type scissor clamp or full loop band that will securely attach to the ceiling support. Fixtures attached to underside of a structural slab shall be properly anchored to the slab at each corner or the fixture.
- F. Each wall mounted emergency light unit shall be secured in a manner to hold the unit in place during a seismic disturbance.
- G. TESTS: In lieu of the requirements for equipment supports, lighting fixtures and the complete fixture supporting assembly may be tested as specified hereinafter. Such tests shall be conducted by an approved and independent testing laboratory, and the results of such tests shall specifically state whether or not the lighting fixture supports satisfy the requirements given herein.
 - 1. TEST EQUIPMENT: To simulate earthquake motion, fixtures and supports shall be attached to a carriage suspended on rollers from an overhead track. A gear motor and crank assembly shall be used to provide oscillatory motion of approximately 1 cycle per second. The exact number of cycles per second and the actual dimension of the crank apparatus shall be adjusted to produce a minimum carriage acceleration of 0.28 g. The actual fixture mounting surface shall be on the underside of the carriage and shall provide capacity for orienting the fixture in a horizontal plane in various positions ranging from parallel to perpendicular to the line of traverse.
 - 2. TEST REQUIREMENTS: All tests shall be conducted with the maximum fixture weight so as to produce the most severe loading conditions. Fixtures having stems shall be tested with the actual stem lengths to be used. Tests shall be of 1 minute duration with the mounting surface in the line of traverse, at 45° to the line of traverse, and at 90° to the line of traverse. A total of 2 fixtures shall be tested in each of the above positions. After each of the 6 tests, the complete stem assemblies from fixtures having stem assemblies shall be subjected to a tensile strength test. The sample shall withstand, without failure, a force of not less than 4 times the weight it is intended to support.
 - 3. ACCEPTANCE: No component of a fixture nor its supports shall be accepted individually. For acceptance, the fixture and its supports

shall exhibit no undue damage, and no component of the fixture shall fail or fall from the fixture during testing.

3.7 RECESSED LIGHTING FIXTURES

- A. Recessed lighting fixtures not over 56 pounds in weight and suspended and pendant hung fixtures not over 70 pounds in weight may be supported and attached directly to the ceiling system runners by a positive attachment such as screws or bolts.

END OF SECTION

SECTION 16111

CONDUIT

PART 1 - GENERAL

1.1 SECTION INCLUDES

- A. Raceways

PART 2 - PRODUCTS

2.1 METAL CONDUIT AND FITTINGS

- A. Allied, Triangle or approved equal.
- B. Quick connect type rigid steel couplings not permitted.

2.2 FLEXIBLE METAL CONDUIT AND FITTINGS

- A. Conduit: FS WW-C-566; steel or aluminum.
- B. Fittings and Conduit Bodies: Use clamp or compression type ANSI/NEMA FB 1. Screw in type not allowed.

2.3 LIQUIDTIGHT FLEXIBLE CONDUIT AND FITTINGS

- A. Conduit: Flexible metal conduit with PVC jacket.
- B. Fittings and Conduit Bodies: Use compression type connectors; screw in type not allowed. ANSI/NEMA FB 1.

2.4 PLASTIC CONDUIT AND FITTINGS

- A. Conduit: Carlon or equal.

2.5 ARMORED CABLE (MC) – permitted subject to the approval of local AHJ.

PART 3 - EXECUTION

3.1 CONDUIT SIZING, ARRANGEMENT, AND SUPPORT

- A. Size conduit for conductor type installed, minimum size 3/4-inch. Conduit sizes shown on Drawings are based on THWN. Provide spare capacity in all branch circuits by not filling to more than 60% of the NEC allowed conduit fill.
- B. Do not route conduits over or under designated computer rooms except those branch circuits dedicated for those spaces. Feeders for computer panels if shown in space shall be routed to panel at right angle to wall and in such a manner to minimize feeder in room.
- C. Maintain minimum 6-inch clearance between conduit and piping. Maintain 12-inch clearance between conduit and heat sources such as flues, steam pipes, and heating appliances.
- D. Arrange conduit supports to prevent distortion of alignment by wire pulling operations. Fasten conduit using galvanized straps, lay-in adjustable hangers, clevis hangers, or bolted split stamped galvanized hangers. Arrange conduit to maintain headroom and present a neat appearance.
- E. Group conduit in parallel runs where practical and use conduit rack constructed of steel channel with conduit straps or clamps. Provide space for 25 percent additional conduit.
- F. Do not fasten conduit with wire or perforated pipe straps or piggy back type clamps. Remove all wire used for temporary conduit support during construction before conductors are pulled.
- G. Conduit and conduit bodies including, FS & FD or larger cast or sheet metal boxes, are not permitted to be supported by either a ceiling grid wire and/or the ceiling grid itself, via any conduit or conduit body clips which may include but would not be limited to: t-bar and/or ceiling wire conduit clips.

3.2 CONDUIT INSTALLATION

- A. Cut conduit square using saw; de-burr cut ends and bring conduit to the shoulder of fittings and couplings and fasten securely.
- B. Use conduit hubs or sealing locknuts for fastening conduit to cast boxes, and for fastening conduit to sheet metal boxes in damp or wet locations.
- C. Install no more than the equivalent of three 90-degree bends between boxes. Use conduit bodies to make sharp changes in direction, as around beams.

- D. Use hydraulic one-shot conduit bender or factory elbows for bends in conduit larger than 2-inch size.
- E. Avoid moisture traps where possible; where unavoidable, provide junction box with drain fitting at conduit low point.
- F. Use suitable conduit caps to protect installed conduit against entrance of dirt and moisture.
- G. Provide No. 12 AWG insulated conductor or suitable pull string in empty conduit, except sleeves and nipples.
- H. Install expansion joints where conduit crosses building expansion joints and every 75 feet.
- I. Refer to fire stopping section 07840. If fire stopping is not included in that section this contractor shall provide it. Where conduit penetrates fire-rated walls and floors, provide fire-stop fittings with UL listed fire rating equal to wall or floor rating.
- J. Route conduit through roof openings for piping and ductwork where possible; otherwise, route through roof jack with pitch pans.
- K. Maximum Size Conduit in Slabs Above Grade: 3/4-inch (with permission of structural Engineer). Do not route conduits to cross each other in slabs above grade.
- L. Use PVC-coated rigid steel factory elbows for bends in plastic conduit runs longer than 100 feet, or in plastic conduit runs which have more than two bends regardless of length. Use rigid steel conduit to turn up out of concrete. Use PVC coated steel elbows for all panel and service feeders.
- M. Install four spare 3/4-inch conduits from each flush mounted power panel to an accessible point above ceiling and cap off.
- N. Use long radius elbows on telephone conduit over 1-inch size.

3.3 CONDUIT INSTALLATION SCHEDULE

- A. Galvanized rigid steel: Minimum 3/4-inch size may be used in all areas.
- B. Electrical Metallic Tubing: Minimum 3/4-inch size may be used in indoor dry locations where it is:

1. Not subject to damage, not in contact with earth, not in concrete slabs on grade and in compliance with other qualifications in this section.
- C. Schedule 40 PVC may be run for underground branch circuits and feeders. Utilize rigid steel where conduits exit the ground. Use PVC coated steel elbows as indicated above. Bury conduits 30 inches below finished grade.
 - D. Flexible steel conduit: 1/2-inch minimum; use for final connection to recessed fluorescent light fixtures and mechanical equipment; length not to exceed four feet. Support independently of the box.
 - E. Liquid-tight flexible steel conduit:
 1. Use for outdoor final connections to mechanical equipment, length not to exceed four feet.
 - F. PVC conduit under concrete may be substituted for rigid in under slab installations. Use rigid steel 90 degree bend to turn up above floor.

END OF SECTION

SECTION 16120

WIRE AND CABLE

PART 1 - GENERAL

1.1 SECTION INCLUDES

- A. Building wire and cable.

PART 2 - PRODUCTS

2.1 BUILDING WIRE

- A. Feeders and branch circuits larger than 10 AWG: stranded conductor, 600 volt insulation, THW or THHN/THWN. Conduit sizes are based on THWN. Wiring shall have UL listing and markings on insulation. Use THHN where fluorescent fixture channel is used as wireway. Wire sizes shown are based upon copper conductors unless noted as "AL".
- B. Stabiloy may be used for feeders and services that exceed 800 amps. Adjust wire size to match copper rating. Aluminum is not permitted except as noted here or specifically on the plans.
- C. Feeders and branch circuits 10 AWG and smaller: Solid conductor, 600 volt insulation THHN/THWN.

2.2 COMMUNICATION SYSTEM WIRING

- A. Wiring type and size for communication (nurse call, intercom, bell systems) and fire alarm systems shall be as recommended by equipment manufacturer. In no case shall any circuit carrying a load have less more than 3% voltage drop. Contractor shall check Drawings and provide plenum-rated wiring where wiring penetrates air plenums and is allowed by the Drawings or Specifications to not be run in raceway.

PART 3 - EXECUTION

3.1 GENERAL WIRING METHODS

- A. Use no wire smaller than 12 AWG for power and lighting circuits, no smaller than 14 AWG for control wiring other than that listed above. Use 10 AWG conductor for 20 ampere, 120 volt branch circuit home runs longer than 75 feet and for 20 ampere, 277 volt branch circuit home runs longer than 200 feet. For longer runs consult Engineer for required sizes.

- B. **EACH CIRCUIT SHALL HAVE A SEPARATE NEUTRAL (NO SHARING) AS PER 2008 NEC.**
- C. For parallel feeders; place an equal number of conductors for each phase of a circuit in same raceway or cable and make conductor lengths the same.

3.2 WIRING INSTALLATION IN RACEWAYS

- A. Pull all conductors into a raceway at the same time. Use UL listed wire pulling lubricant for pulling 4 AWG and larger wires. Completely and thoroughly swab raceway system before installing conductors.
- B. Install wire in raceway after interior of building has been physically protected from the weather and all mechanical work likely to injure conductors has been completed.

3.3 WIRING CONNECTIONS AND TERMINATIONS

- A. Use solderless pressure connectors with insulating covers for copper wire splices and taps, 8 AWG and larger. For 10 AWG and smaller, use insulated spring wire connectors with plastic caps. Use Scotchlock or approved equal. Thoroughly clean wires before installing lugs and connectors
- B. Use KUP-L-TAP, or equal, connectors for splicing of #6 AWG wires and larger.

3.4 COLOR CODING

- A. Color code 208V wiring as follows:
 - 1. Phase A-Black; Phase B-Red; Phase C- Blue; Ground: Green; Neutral: White; Switch legs: Yellow,brown,purple,etc. For delta systems mark the high leg-orange.

3.5 CIRCUITING

- A. **Circuit as shown on Drawings.** Failure to properly circuit according to Drawings shall result in rewiring as directed at no increase in Contract Sum. Contact Engineer for resolutions of circuiting conflicts. If duplicate circuit numbers are found on the plans contact the Engineer prior to rough in. Allow for spare room in all conduits by not filling to more than 60% of that allowed by NEC.END OF SECTION

SECTION 16130 BOXES

PART 1 - GENERAL

1.1 SECTION INCLUDES

- A. Pull, junction, and outlet boxes.

PART 2 - PRODUCTS

2.1 OUTLET BOXES

- A. Sheet Metal Outlet Boxes: ANSI/NEMA OS 1; galvanized steel, with 1/2-inch male fixture studs where required. Use 4x4 deep type box with single gang mudring for telephone and data outlets.
- B. Cast Boxes: Cast ferrous alloy, deep type, gasketed cover, threaded hubs.

2.2 FLOOR BOXES

- A. Floor boxes shall be LEW-632-DFB-20A for power and LEW-532BE for telephone, or equal boxes by WALKER. Provide carpet flanges for all floor boxes in carpet area and tile flanges for areas in tile. Verify compatibility of floor box and plate with floor type prior to ordering.
- B. Floor boxes in commercial type kitchens shall be Lew: H-702 series unless indicated to be flush-confirm brass or aluminum.

2.3 PULL AND JUNCTION BOXES

- A. Sheet Metal Boxes: ANSI/NEMA OS 1; galvanized steel.
- B. Cast Metal Boxes for Outdoor and Wet Locations Installations: NEMA 250; Type 4 and Type 6, flat-flanged, surface-mounted junction box, UL listed as raintight. Galvanized cast iron box and cover with ground flange, neoprene gasket, and stainless steel cover screws.
- C. Cast Metal Boxes for Underground Installations: NEMA 250; Type r, outside flanged, recessed cover box for flush mounting, UL listed as raintight. Galvanized cast iron box and plain cover with neoprene gasket and stainless steel cover screws.

PART 3 - EXECUTION

3.1 COORDINATION OF BOX LOCATIONS

- A. Provide electrical boxes as shown on Drawings, and as required for splices, taps, wire pulling, equipment connections, and code compliance. Electrical box locations shown on Drawings are approximate unless dimensioned.
- B. Mount switches and pull stations 48 in (center of box) above finish floor and receptacles 16 inches (center of box) above finish floor. Mount clock outlets 12 inches below ceiling. Strobes 80" AFF.
- C. Refer to architectural plans prior to rough in. Coordinate the architectural plans with that shown on the electrical plans. If there are discrepancies, obtain correct rough in locations prior to work. Verify with the architect the exact locations of all wall mounted devices. If this is not done the contractor shall move them as directed by the architect for no additional cost. In general light switches shall always be located near the door strike side jam unless there are sidelight. Where there are sidelights – confirm the location.

3.2 OUTLET BOX INSTALLATION

- A. Do not install boxes back-to-back in walls. Provide minimum 6 inch separation, except provide minimum 24-inch separation in acoustic and fire rated walls. Separate phone/data and power by 12 inches.
- B. Provide knockout closures for unused openings.
- C. Support boxes independently of conduit except for cast boxes that is connected to two rigid metal conduits, both supported within 12 inches of box.
- D. Use multiple-gang boxes where more than one device are mounted together; do not use sectional boxes. Provide barriers to separate wiring of different voltage systems.
- E. Install outlets mounted above counters, benches, and backsplashes according to millwork plans.
- F. Position lighting outlets as per reflected ceiling plans.

- G. In inaccessible ceiling areas, position outlets and junction boxes within 6 inches of recessed luminaire, to be accessible through luminaire ceiling opening. NO boxes shall be installed in inaccessible areas.
- H. Secure boxes to interior wall and partition studs with 8-32 bolts or weld. Use stamped steel stud bridges for flush outlets in hollow stud wall, and adjustable steel channel fasteners for flush ceiling outlet boxes.
- I. Align wall-mounted outlet boxes for switches, thermostats, and similar devices. Set switch boxes within 6 inches of door jamb where applicable.
- J. Provide cast outlet boxes in exterior locations exposed to the weather and wet locations.

3.3 FLOOR BOX INSTALLATION

- A. Set boxes level and flush with finish flooring material. Install floor boxes as directed by Arch. Obtain exact dimensions from Architect prior to rough in.

END OF SECTION

**SECTION 16141
WIRING DEVICES**

PART 1 - GENERAL

1.1 SECTION INCLUDES

- A. Wall switches, receptacles and plates.

1.2 SUBMITTALS

- A. Submit product data showing configurations, finishes, dimensions, and manufacturer's instructions. **Note if contractor does not request color selection from Architect he shall change all devices and plates as directed by Architect.**

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Cooper, Hubbell, Leviton unless shown otherwise.

2.2 WALL SWITCHES

- A. Wall switches shall be commercial grade CS-20.
- B. Pilot Light Type: (light on with load on) used to indicate a load is on (e.g. remote exhaust fan).
- C. Lighted Toggle Type: (light on with load off) used to locate switch where it may be difficult to find in the dark.

2.3 RECEPTACLES

- A. Receptacles shall be commercial grade CR-20.
- B. GFI Receptacles: 20 Amp duplex convenience receptacle with integral ground fault current interrupter. Slaving of GFI's not permitted unless shown otherwise. Provide GFI receptacles for all receptacles in commercial kitchens and all non refrigeration outlets in non-commercial kitchens. In addition provide GFI receptacles at all locations within 6' of a water outlet.
- C. Tamper Resistant. Tamper Resistant. Install commercial grade tamper resistant devices as defined and as required by code.

2.4 WALL PLATES

- A. Nylon.
- B. Weatherproof Cover Plate: Thomas & Betts, "In use" Red-Dot "Code Keeper". Complete unit shall be made of die cast copper-free* aluminum alloy including flip cover. Plastic units are not acceptable. (*less than .004 copper content). Flip lid types are permitted only where allowed by code.
- C. Furnish blank plates for openings without a device.

PART 3 – EXECUTION

3.1 INSTALLATION

- A. Install receptacle behind E.W.C. so cord will not show. Provide GFI protection for all water cooler outlets. This can be a GFI breaker or slaved and properly labeled from a bathroom GFI receptacle.
- B. Do not install receptacles above lay in ceilings for the connection of ballast and power supplies.

END OF SECTION

**SECTION 16440
DISCONNECT SWITCHES**

PART 1 - GENERAL

PART 2 - PRODUCTS

2.1 MANUFACTURERS - DISCONNECT SWITCHES

- A. Square D, Cutler Hammer, Siemens, and General Electric.

2.2 DISCONNECT SWITCHES

- A. Fusible Switch Assemblies: General duty approved for this project.
- B. Nonfusible Switch Assemblies: General duty approved for this project.
- C. Enclosures:
 - 1. NEMA 1: Indoors.
 - 2. NEMA 3R: Outdoors.
 - 3. As indicated on Drawings.

2.3 Manual Transfer switch with over current protection for both sources listed as Service Entrance equipment NEMA 3R.

2.4 MANUFACTURERS - FUSES

- A. Bussman: Fusetrans for motors, Low Peak or Hi-Cap elsewhere and at service.

2.5 FUSES

- A. Fuses 600 Amperes and Less: ANSI/UL 198E, Class Low Peak. as indicated on Drawings; dual element, current limiting, time delay, 200 or 600 volt as required.
- B. Provide one spare set of each size and type of fuse in a cabinet with locking door.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Install disconnect switches where indicated on Drawings and as required by code. Install a disconnecting means within sight of all motors (whether shown or not).
- B. Install heavy duty switches for service entrances and 100 amps and above.
- C. If switches are mounted on equipment, provide 12 inches of flexible conduit next to switch between switch and panel.

END OF SECTION

SECTION 16450

SECONDARY GROUNDING

PART 1 - GENERAL

1.1 SYSTEM DESCRIPTION

- A. Ground the electrical service system neutral at service entrance equipment to metallic water service where applicable and to supplementary grounding electrodes.
- B. Ground each separately-derived system neutral to nearest effectively grounded metallic water pipe where applicable or nearest effectively grounded building structural steel member.
- C. Bond together system neutrals, service equipment enclosures, exposed non-current carrying metal parts of electrical equipment, metal raceway systems, grounding conductor in raceways and cables, receptacle ground connectors, and piping systems.
- D. Do not connect neutral and ground anywhere except at service entrance.
- E. Do not use conduit as the sole grounding method.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Ground Rods: Copper-encased steel, 3/4-inch diameter, minimum length 10 feet.
- B. Furnish BURNDY bar connectors or CADWELD connectors.
- C. Provide a concrete encased grounding electrode for the main grounding electrode. In the city of Little Rock ensure that the electrode design complies with city code.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Provide a separate, insulated equipment grounding conductor in feeder and branch circuits. Terminate each end on a grounding lug, bus, or bushing.
- B. Connect grounding electrode conductors to metal 1-inch water pipe using a suitable ground clamp. Make connections to flanged piping at street side of flange. Provide bonding jumper around water meter.
- C. Supplementary Grounding Electrode: Use driven ground rod on exterior of building. Connect grounding system to nearest structural steel member.
- D. Provide a #6 AWG copper conductor for communications service grounding conductor. Leave 10 feet slack conductor at telephone terminal board.
- E. Isolated Grounding Systems: Use insulated equipment grounding conductor and connect only at panel ground bus. Use isolated ground receptacles.

3.2 FIELD QUALITY CONTROL

- A. Leave grounding points exposed for inspection – Provide box with cover for inspection port.

END OF SECTION

SECTION 16470

PANELBOARDS

PART 1 - GENERAL

1.1 SECTION INCLUDES

- A. Panelboards and switchboards. Load centers approved for this project.

1.2 SPARE PARTS

- A. Keys: Furnish two for each panel to Owner.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Square D: NQOD, Cutler Hammer, Siemens, or GE. Use bolted circuit breakers .

2.2 SWITCHBOARDS

- A. Multiple sections shall be bussed together.

2.3 MAIN AND DISTRIBUTION PANELBOARDS

- A. Enclosure: NEMA 1 indoors; NEMA 3R outdoors. Provide doors with cylinder locks on all panels.
- B. Panel short circuit rating (unless shown otherwise on Drawings):
 - 1. 208/240 volts: for 100 amp through 300 amp, 22,000 RMS; for 301 amp through 800 amp, 42,000 RMS.
 - 2. 277/480 volts: For 100 amp through 300 amp, 14,000 RMS; for 301 amp through 800 amp, 25,000 RMS.

- C. Molded Case Circuit Breakers: NEMA AB 1; provide circuit breakers with integral thermal and instantaneous magnetic trip in each pole. Provide circuit breakers UL listed as Type HACR for air conditioning equipment branch circuits and HID/SWD for all breakers used to switch lighting circuits. Verify breakers for A/C equipment prior to rough-in. Provide G.F.I. type circuit breakers for all heating cable and immersion heaters.
- D. All main disconnect devices located inside shall have shunt trip operators.
- E. All flush mounted panelboards shall fit in 6" nominal stud wall.
- F. Where buildings are sprinklered furnish shunt trip breakers for elevator drives and control power (connected via the fire alarm to shut off power prior to sprinkler activation. Provide one auxilliary contact to shut off car emergency battery power as well. Coordinate with the fire alarm vendor and elevator supplier.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Install panelboards plumb and flush with wall finishes in conformance with NEMA PB 1.1 unless noted as surface-mounted. Provide filler plates for unused spaces in panelboards.
- B. Provide typed circuit directory under plastic for each branch circuit panelboard. The circuit directory shall indicate the load served. Circuits feeding lighting and receptacles shall be labeled as per which room is served (use owner's room naming system).
- C. Stub four empty 3/4-inch conduits to accessible location above ceiling out of each recessed panelboard.
- D. Meter Centers: Exterior conduits shall be painted. Paint color as selected by the Architect. Each conduit shall be stenciled with suite number or letter. Painted lettering shall be in contrast with Architect selected color. Label each meter with suite number or letter using bakelite label riveted to the equipment. Arrangement of meter sections shall be as indicated on the drawings unless permission is granted by the Engineer.

END OF SECTION

SECTION 16510

LIGHTING

PART 1 - GENERAL

1.1 SECTION INCLUDES

- A. Luminaires, lamps and accessories.

1.2 SUBMITTALS

- A. Submit product data including **lamps**, ballast data, support points, weights, and accessory information for each luminaire type.

1.3 QUALITY ASSURANCE

- A. Furnish interior ceiling fixtures compatible with ceiling system. Coordinate with ceiling system installer. Verify prior to ordering.

PART 2 - PRODUCTS

2.1 MANUFACTURERS - LUMINAIRES AND ACCESSORIES

- A. See Fixture Schedule on Drawings.
- B. All request for substitutions shall be accompanied by factory certified computer printouts of performance of substituted fixture showing foot candles on Floor Plan.

2.2 LUMINAIRES

- A. Lenses shall have minimum thickness of 0.125 inches.
- B. Provide tube guards for all exposed lamps in food preparation areas.

2.3 LAMPS

- A. Refer to fixture schedule on Drawings. Provide Owner with 10 percent spare lamps of each type.
- B. Incandescent lamps shall be rated for 130 volts.

- C. Lamps shall be Phillips (substitutions must be approved 10 days prior to bid)
- D. Fluorescent lamps shall be 835 or 841 series (verify color temperature prior to ordering). Maintain same pin configurations (where possible) for all compact fluorescent lamps on the project. All lamps on the project shall be the same color temperature. Discrepancies in the specifications shall be brought to the attention of the Engineer prior to ordering.
- E. Metal halide lamps used in indoor merchandising shall be "Master Color" unless directed otherwise.
- F. Fixtures that can only use a lamp made by only one manufacturer shall not be used without specific approval of the Engineer (even if catalog number calls out for it).

2.4 BALLAST

- A. Fluorescent lamp ballast shall be Advance rated less than 10% THD provide rapid start unless noted otherwise (for linear lamps). For CF lamps provide Advance ballast rated less than 20% THD.
- B. Sound rating of ballast shall be "A" for interior fixtures.
- C. HID ballast shall be HPF.
- D. Exterior fixtures 200 watts or more shall be fused.
- E. Utilize program start ballasts that are suitable for use with occupancy sensors where occupancy sensors are shown.
- F. Cable type and number of conductors shall be as recommended by the manufacturer. Cables between devices and panels shall be unspliced.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Install lamps in luminaires and lampholders three days before final observation.
- B. Connection to light fixtures shall be from j-box directly to fixture (fixture to fixture wiring not permitted except where fluorescent fixtures are run in continuous runs such as lighting coves).

- C. Support surface-mounted luminaires directly from building structure. Support recessed fluorescent luminaires independent by two #12 wires to steel or concrete above. Use plaster frames if required.
- D. Layout work to ensure that ceiling outlets are located symmetrically in area.
- E. Arrange fixtures to miss ducts and equipment in Mechanical Room and to miss air ducts in other areas.
- F. Install 1-1/2-inch spacer between ceiling and top of slim line and high output fixtures by using two rigid metal spacers for each fixture.

3.2 ADJUSTING AND CLEANING

- A. Align luminaires and clean lenses and diffusers at completion of Work. Clean paint splatters, dirt, and debris from installed luminaires.

END OF SECTION

