

PROJECT MANUAL
FOR
RETICULATED PYTHON EXHIBIT
LITTLE ROCK ZOO
LITTLE ROCK, ARKANSAS

March 18, 2015



Little Rock Bid #15-126

Project No. HW14-630F



H+W

Heiple + Wiedower Architects
319 President Clinton, Suite 201
Little Rock, AR



LR Zoo Renovation of Reticulated Python Exhibit
Bid Number: 15126
Closing Date: 4/13/15 at 2 PM

TABLE OF CONTENTS

DIVISION 1	00100	Instruction to Bidders
	00300	Bid Form
	00500	Agreement
	00501	City's General Conditions/with Architect
	01300	Submittals
	01700	Contract Closeouts
	01740	Warranties
DIVISION 2	02060	Selective Demolition
	02110	Site Clearing
	02200	Earthwork
	02280	Soil Treatment
DIVISION 3	03310	Concrete Work
DIVISION 4	04200	Unit Masonry
DIVISION 5	None	
DIVISION 6	06100	Rough Carpentry
DIVISION 7	07310	Shingles
DIVISION 8	None	
DIVISION 9	09900	Painting
A1.1	11 X 17	Floor & Ceiling Plans
A1.2	11 X 17	Elevations & Sections

End of Document

Section 00100
INSTRUCTION TO BIDDERS
LR BID #15-126

To be considered responsive, Bids must be made in accordance with the following instructions:

1. **PRE-BID CONFERENCE:** There will be a **mandatory pre-bid conference** at the Little Rock Zoo on **Monday, April 1, 2015 at 10:00 AM**. Access will be via Administrative Entrance on Monroe Street, by requesting gate access at post mounted intercom on left side of street. Upon entering the Zoo park and enter the administration building immediately to the left. The meeting will begin in the Administration Building Conference Room and will proceed to the job site. Access to the site at any other time must be scheduled in advance with the Zoo Facilities Operations Manager.

2. **AVAILABILITY OF DOCUMENTS:** The BID DOCUMENTS may be examined at the following locations:

F. W. Dodge 1701 Center View Drive Suite 119 Little Rock, Arkansas	Southern Reprographics 907 West 7th Street Little Rock, Arkansas
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Copies of the BID DOCUMENTS may be obtained at Southern Reprographics, 907 West 7th Street, Little Rock, Arkansas. Bonafide Bidders and subcontractors may purchase sets of documents at Southern Reprographics for the cost of

Direct inquiries to: Tim Heiple, A.I.A.
Heiple Wiedower Architects
319 President Clinton Ave, Suite 201
Little Rock, Arkansas 72201
501-707-0115 phone
501-707-0118 fax
tim@hwarch.com email

3. **RECEIPT AND OPENING OF BIDS:** The City of Little Rock (hereinafter called the "Owner") invites Bids on the **Reticulating Python** at the Little Rock Zoo. Bid Form attached hereto, all blanks which must be appropriately filled in. **Bids will be received by the Owner at the Purchasing Office of Little Rock City Hall, 500 West Markham Street, Room 300, Little Rock, Arkansas, until 2:00 p.m. Monday April 13, 2015.**

The Owner may consider informal any Bid not prepared and submitted in accordance with the provisions hereof and may waive any irregularities or reject any or all Bids. Any bid may be withdrawn prior to the above scheduled time for the opening of Bid or authorized postponement thereof. Bids received prior to the time of opening will be kept, unopened. Any Bid received after the time and date specified will not be considered. No responsibility will be assumed by any person for the premature opening of a bid not properly addressed and identified.

4. **PREPARATION OF BID:** Use Bid Form bound in Project Manual. Bid prices must be written in ink or typewritten, in both words and numbers. The signature of the individual authorized to bind the Bidder shall be in longhand. Each Bid must be submitted in a sealed envelope bearing

on the outside the name of Bidder, his address, and name of project for which Bid is submitted.

5. **MINORITY PARTICIPATION:** The City of Little Rock encourages participation of small, minority, and woman own business enterprises in the procurement of goods, services, professional services, and construction, either as a general contractor or sub-contractor. It is further requested that whenever possible, majority contractors who require sub-contractors, seek qualified small, minority, and woman businesses to partner with them.
6. **BOARD OF COMMISSIONERS NOTICE:** the City of Little Rock selects its board and commission members through a process that utilizes an executive session. Under Arkansas law, this fact deems a volunteer an employee for a limited purpose. The City cannot contract with an employee, and cannot contract with a corporation with an employee in an executive or managerial position who also serves as a volunteer on a City board or commission unless it first passes an ordinance to approve the contract. Is any person involved with this bid an employee of the City, or a volunteer board or commission member who also holds an executive or managerial position with the Bidder? If the answer is "yes," please identify the person(s) and the nature of the relationship. THIS DOES NOT MEAN that the bidder is disqualified; but, the apparent successful bidder will not be selected if the board of directors fails to pass an ordinance to authorize the contract, regardless of the amount.
7. **BID SECURITY:** Bids must be accompanied by a bidder's bond in an amount equal to 5% of the bid, executed by a surety company approved by the Owner, and authorized to do business in the State of Arkansas. The Bidder may furnish a certified check, in an amount equal to 5% of bid, drawn on a national bank or a bank having a membership in the Federal Reserve System and signed by the President or Cashier, in lieu of Bond. Such bond or check and the amount thereof shall become the property of the Owner as noted in the bid form, as liquidated damages, if the Bidder whose Bid is accepted shall fail upon receipt of written notice of the acceptance of his bid, to execute a contract in accordance with good and sufficient surety or sureties, within ten calendar days after the prescribed forms are presented for signature.
8. **BOND REQUIREMENTS:** Pursuant to Act 1015 of 2013 which becomes effective on August 16, 2013, all bonds submitted to CLR (bid bonds and Performance/Payment Bonds) must be issued by surety companies that are listed on current United State Department of Treasury's Listing of Approved Sureties. On and after this date:

Any bid bonds submitted by a bidder that are not issued by a surety company qualified and authorized to do business within Arkansas and listed as an approved surety on the US Department of Treasury list will be rejected.

Any performance and payment bonds provided by the Contractor that are not issued by a surety company qualified and authorized to do business within Arkansas and listed as an approved surety on the US Department of Treasury list shall be considered as a contractor's default in failing to execute and deliver the contract and bonds. The contractor is liable to the project owner in the amount of the 5% bid surety.

To verify current list of surety companies, please go to: www.fms.treas.gov/c570/c570a-z.html and search surety company name in the A to Z database listing.

9. **CONDITIONS OF WORK:** Before submitting a Bid, Bidders shall carefully examine the Drawings and the Specifications under this work, visit the site of the work, fully inform themselves as to

all existing conditions and limitations, and shall include in the Bid the sums to cover the cost of all items included in the Contract.

Insofar as possible, the Contractor, in carrying out his work, must employ such methods or means as will not cause any interruption of, or interference with, the work of any other Contractor.

10. **SPECIAL CONDITIONS FOR WORK IN THE LITTLE ROCK ZOO:** Contractor's employees must at no time interact with animals, i.e. yelling, teasing, feeding, etc.

Contractor will be provided staging/storage area and construction limits, which must be maintained at all times.

Contractor to provide catch barriers at all animal areas adjacent to construction zone. If any construction materials fall into an animal area, the Keepers must be notified immediately.

Contractor will be allowed access for vehicles to unload personnel and tools only, but vehicles must be removed from work area to assigned parking spaces during Zoo hours of 9-5.

Working hours will be from 7am to 5 pm, Monday through Friday, unless special permission is granted.

11. **SERVICES AND MATERIALS PROVIDED BY OWNER:** The following items will be provided by the Owner including all materials and labor. Only coordination with the contractor will be required, since this work will be completed as the contractors work is done:

- The owner will provide water, electricity, sewer, etc. as utilities that the bidder can use in the construction. Bidder must supply his own toilet facilities, as well as phone and email service.

12. **SUBSTITUTIONS:** To obtain approval to use unspecified products, bidders must submit written requests at least three days before the bid date and hour. Requests received after this time will not be considered. Requests shall clearly describe the product for which approval is asked, including all data necessary to demonstrate acceptability. If the product is acceptable, the Architect will approve it in an addendum issued to all prime bidders on record.

13. **ADDENDA AND INTERPRETATIONS:** Should a Bidder find discrepancies in, or omissions from the Drawings, Specifications or other pre-bid documents, or should the Bidder be in doubt as to their meaning, the Owner should be notified at once. Any and all such interpretations and any supplemental instructions will be in the form of written addenda to the Bid Documents which, if issued, will be posted to the City website not later than three days prior to the date fixed for the opening of bids. All addenda so issued shall become part of the Contract Documents and all Bidders are required to acknowledge receipt of all addenda on their bid.

14. **SUBMISSION OF POST-BID INFORMATION:** Upon receipt of written notice of contract award, the successful Bidder shall execute a contract, in accordance with good and sufficient surety or sureties, within ten calendar days after the prescribed forms are presented for signature. Required bond and insurance documents shall be furnished with the executed contract.

15. **SECURITY FOR FAITHFUL PERFORMANCE:** : IF THE AMOUNT OF THE BID IS IN EXCESS OF \$20,000, simultaneously with his delivery of the executed contract, the Contractor shall furnish an executed Performance Bond and an executed Labor and Material Payment Bond, each in

the amount of 100% of the Contract Sum, as security for faithful performance of this contract and for the payment of all persons performing labor on the project under this contract and furnishing materials in connection with this contract, as specified. The surety on such bond shall be a Surety Company satisfactory to the Owner and authorized to do business in the State of Arkansas.

16. **POWER OF ATTORNEY:** Attorneys-in-fact who sign bid bonds or contract bonds must file with each bond a certified and effectively dated copy of their power-of attorney.
17. **LAWS AND REGULATIONS:** The Bidder's attention is directed to the fact that all applicable state laws, municipal ordinances, and the rules and regulations of all authorities have jurisdiction over construction of the project and shall apply to the Contract throughout, and they will be deemed to be included in the Contract the same as though written out in full.
18. **METHOD OF AWARD:** If the Base Bid is within the amount of funds available to finance the construction contract, and the Bidder has met all other qualifications as specified in this and the attached documents, then contract award will be made to that responsible responsive Bidder submitting the low Base Bid.
19. **OBLIGATION OF OWNER:** The Owner, within ten calendar days of receipt of acceptable Bonds and Agreement signed by the party to whom the contract was awarded shall sign the Agreement and return to such party an executed duplicate of the Agreement. Should the Owner not execute the Agreement within such period, the Bidder may, with WRITTEN NOTICE, withdraw his signed Agreement. Such notice of withdrawal shall be effective upon receipt of the notice by the Owner.

The NOTICE TO PROCEED will be issued within ten 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 between the Owner and Contractor. If the Notice to Proceed has not been issued within the ten day period or within the period mutually agreed upon, the Contractor may terminate the Agreement without further liability on the part of either party.

20. **ALLOWANCES:** N/A

21. **ADDITIVE ALTERNATES:** N/A

22. **LIQUIDATED DAMAGES:** The Bidder shall understand that, if awarded the Contract, the Contract Time provided in the Agreement is an essential condition of the Contract. If the Contractor shall neglect, fail, or refuse to complete the work within the time established, or any proper extension thereof, the Agreement will provide that the Contractor pay to the Owner the amount of \$250.00 (Two Hundred Fifty Dollars) not as a penalty, but as liquidated damages for such breach of contract, for each calendar day that the Contractor shall be in default after the time stipulated in the Contract for completion of the work. The said amount is fixed and agreed upon by and between the Contractor and the Owner because of the impracticability and extreme difficulty of fixing and ascertaining the actual damages. The Owner would, in such event, sustain and said amount is agreed to be the amount of damages that the Owner would sustain.

23. **Wage Rates:** N/A

END OF SECTION

**SECTION 00300
LITTLE ROCK BID #15-126
BID FORM**

Proposal of (hereinafter called "BIDDER") _____
organized and existing under the laws of the State of Arkansas doing business as
_____.

(Insert "a corporation", "a partnership", or "an individual", as applicable.)

To the City of Little Rock (hereinafter called "OWNER").

By submission of this BID, each BIDDER certifies that 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. BIDDER hereby agrees to commence WORK under this contract on or before a date to be specified in the NOTICE TO PROCEED and to **complete the entire work of the contract within 30 (thirty) calendar days**. BIDDER further agrees to pay as liquidated damages, the sum of \$250.00 (two hundred fifty dollars) for each consecutive calendar day after each of the above mentioned time limits that the construction work exceeds the agreed upon completion date.

The Bidder, in compliance with your request for bids **for Renovation of the Reticulated Python Exhibit**, being familiar with all the plans and specifications and related documents and with the site of the proposed work, and being familiar with all the conditions surrounding the construction of the proposed project, including the availability of materials and supplies, agrees to construct the project in accordance with the Contract Documents, within the time set forth therein, and at the prices stated below. These prices are to cover all expenses incurred in performing the work required under the Contract Documents, of which this proposal is a part.

Please note that if this bid amount is over \$20,000 a General Contractor's license will be required by Arkansas law.

1. BASE PROPOSAL

BID PROPOSAL: \$_____.

_____ dollars.

Amount shall be shown in both written form and figures. In case of discrepancy between the written amount and the figures, the written amount shall govern.

4. ACCEPTANCE OR REJECTION OR PROPOSAL

In submitting this BID, it is understood that the OWNER reserves the right to reject any and all BIDS. If written notice of acceptance of this bid is mailed,

telegraphed or delivered to the Undersigned within 60 (sixty) calendar days after opening of the BID, the Undersigned agrees to execute and deliver a contract in prescribed form and furnish required Bond (IF CONTRACT PRICE IS IN EXCESS OF \$20,000) within 10 (ten) days after contract is presented for signature.

5. ADDENDA RECEIPT

BIDDER acknowledges receipt of the following ADDENDA:

Addendum No. _____ Dated _____

Addendum No. _____ Dated _____

6. FIRM NAME

Business Name: _____

Business Address: _____

Business Phone/Fax: _____

Authorized Signature: _____
(Title)

License Number: _____

END OF SECTION

SECTION 00500

AGREEMENT

Agreement between Owner and Contractor
On the Basis of Stipulated Price

(Based on EJCDC 1910-8-A-1, 1990 edition)

THIS AGREEMENT is dated as of the ____ day of _____, in the year 2015, by and between the City of Little Rock, (hereinafter called "Owner") and _____ (hereinafter called "Contractor").

Owner and Contractor, in consideration of the mutual covenants hereinafter set forth, agree as follows:

Article 1. WORK

Contractor shall complete all Work as specified or indicated in the Contract Documents. The Work is generally described as follows: **Renovation of the Reticulated Python Exhibit** at the Little Rock Zoo, #1 Zoo Drive, Little Rock, Arkansas.

Article 2. ARCHITECT/OWNERS REPRESENTATIVES

The Project has been designed by:
Heiple + Wiedower Architects
319 President Clinton Ave., Suite 201
Little Rock, Arkansas 72201

Owner's Project Manager:
Tony Dawson, Interim Facilities Operations Manager
1 Zoo Drive
Little Rock, AR 72205
501-247-5968
tdawson@littlerock.org

Owner's Project Coordinator:
Jj Muehlhausen
1 Zoo Drive
Little Rock, AR 72205
501-661-7230
jmuehlhausen@littlerock.org

Article 3. CONTRACT TIME

- 3.1** The Work included in this contract shall be completed within **thirty (30) calendar days** of the date specified on the Notice to Proceed. The calculation of this stipulated time has taken into consideration normal weather days typically encountered in this location during this time of the year.
- 3.2** Liquidated Damages. Owner and Contractor recognize that time is of the essence of this Agreement and that Owner will suffer financial loss if the Work is not completed within the times specified in paragraph 3.1 of this Agreement, plus

any extensions thereof allowed in accordance with Article 15 of the General Conditions. The Owner and Contractor also recognize the delays, expense and difficulties involved in proving in a legal proceeding the actual loss suffered by Owner if the Work is not completed on time. Accordingly, instead of requiring any such proof, Owner and Contractor agree that as liquidated damages for delay, but not as penalty, Contractor shall pay Owner Two hundred fifty dollars (\$250.00) per day for each day that expires after the time specified in paragraph 3.1 of this Agreement for completion of Work until the Work is complete and ready for final payment. There shall be no exemptions because of weather conditions if the Owner certifies that work within the structure could have proceeded despite the weather. **The Owner has the right to withhold any such sums as liquidated damages from the final payment to the Contractor.**

Article 4. CONTRACT PRICE

- 4.1 Owner shall pay Contractor for completion of the Work in accordance with the Contract Documents in current funds as follows:

A lump sum Contract Price of _____.

Article 5. PAYMENT PROCEDURES

Contractor shall submit Applications for Payment in accordance with Article 19 of the General Conditions. Applications for Payment will be processed as provided in the General Conditions.

- 5.1 Progress Payments: Owner shall make progress payments on account of the Contract Price on the basis of Contractor's Applications for Payment on or about the 20th day of each month during construction as provided below. All progress payments will be on the basis of the progress of the Work measured by the schedule of values established in Article 3 of the General Conditions, and in the case of Unit Price Work based on the number of units completed, or, in the event there is no schedule of values, as provided in the General Conditions.
- 5.1.1 The Owner shall retain five percent (5%) of the amount of each progress payment. Prior to Substantial Completion, progress payments will be made in an amount equal to the percentage indicated below, but, in each case, less the aggregate of payments previously made and less such amounts the Owner may withhold, in accordance with Article 19 of the General Conditions.
- 5.1.2 Subject to the provisions of Section 3.2, upon Substantial Completion, payments will be made in an amount sufficient to increase total payments to Contractor to ninety five percent (95%) of the Contract Price, less such amounts that the Owner may withhold, in accordance with Article 19 of the General Conditions.
- 5.1.3 In accordance with Ark. Code Ann. § 22-9-604, if the Contractor is required by the Contract Documents to purchase and furnish materials or equipment that will be stored on the job site or in a bonded warehouse and used in the Work, no retainage will be withheld on that amount of the submitted progress payment pertaining to the cost of these stored materials or equipment.

- 5.2 Final Payment. Upon final completion and acceptance of the Work in accordance with Article 19 of the General Conditions, and after the Owner receives ALL lien waivers and ALL other proper documentation from the Contractor, Owner shall pay the remainder of the Contract Price as provided in said Article 19.

Article 6. CONTRACTOR'S REPRESENTATIONS

In order to induce Owner to enter into this Agreement, Contractor makes the following representations:

- 6.1 Contractor has familiarized itself with the nature and extent of the Contract Documents, Work, site, locality, and all local conditions and laws and regulations that in any manner may affect cost, progress, performance or furnishing of the Work. Contractor covenants and agrees to comply with all applicable laws, statutes, regulations, ordinances and permits relating to the performance of this contract.
- 6.2 Contractor has studied carefully all reports of explorations and tests of subsurface conditions and drawings of physical conditions, and accepts the determination of the extent of the technical data contained in such reports and drawings upon which Contractor is entitled to rely.
- 6.3 Contractor has obtained and carefully studied, or assumes responsibility for obtaining and carefully studying, all such examinations, investigations, explorations, tests, reports and studies, in addition to or to supplement those referred to in paragraph 6.2 above, which pertain to the subsurface or physical conditions at or contiguous to the site or otherwise that may affect the cost, progress, performance or furnishing of the Work as Contractor considers necessary for the performance or furnishing of the Work at the Contract Price, within the Contract Documents. No additional examinations, investigations, explorations, tests, reports, studies or similar information or data are or will be required by Contractor for such purposes.
- 6.4 Contractor has reviewed and checked all information and data shown or indicated on the Contract Documents with respect to existing Underground Facilities at or contiguous to the site and assumes responsibility for the accurate location of said Underground Facilities. No additional examinations, investigations, explorations, tests, reports, studies or similar information or data with respect to said Underground Facilities are or will be required by Contractor in order to perform and furnish the Work at the Contract Price, within the Contract Time and in accordance with the other terms and conditions of the Contract Documents.
- 6.5 Contractor has correlated the results of all such observations, examinations, investigations, explorations, tests, reports and studies with the terms and conditions of the Contract Documents.
- 6.6 Contractor has given Owner written notice of all conflicts, errors or discrepancies that he has discovered in the Contract Documents and the written resolution thereof by Owner is acceptable to Contractor.

Article 7. CONTRACT DOCUMENTS

The Contract Documents which comprise the entire agreement between Owner and Contractor concerning the Work consist of the following:

- 7.1 This Agreement.
- 7.2 Performance and Payment Bonds. (If contract amount is over \$20,000)
- 7.3 Notice of Award.
- 7.4 General Conditions.
- 7.5 Supplementary Conditions, if any.
- 7.6 Specifications.
- 7.7 Drawings.
- 7.8 Addenda number _____, if any.
- 7.9 Invitation to Bid, Instructions to Bidders, Bid Form, and Contractor's Bid.
- 7.10 Notice to Proceed
- 7.12 Certificates of Insurance as required.
- 7.13 The following which may be delivered or issued after the Effective Date of the Agreement and are not attached hereto: All written amendments and other documents amending, modifying or supplementing the Contract Documents and the provisions of this Agreement.

There are no Contract Documents other than those listed above in this Article 7. The Contract Documents may only be amended, modified or supplemented as provided in Subsections 13.1 and 13.2 of the General Conditions, of the Project Manual, and the provisions of this Agreement.

Article 8. MISCELLANEOUS

- 8.1 Terms used in this Agreement that are defined in Article 1 of the General Conditions will have the meanings indicated in the General Conditions.
- 8.2 No assignment by a party hereto of any rights under or interests in the Contract Documents will be binding on another party hereto without the written consent of the party sought to be bound; and specifically but without limitation moneys that may become due and moneys that are due may not be assigned without such consent, except to the extent that the effect of this restriction may be limited by law. Unless specifically stated to the contrary in any written consent to an assignment, no assignment will release or discharge the assignor from any duty or responsibility under the Contract Documents.
- 8.3 Owner and Contractor each binds itself, its partners, successors and legal representatives to the other party hereto, its partners, successors, assigns and

legal representatives in respect of all covenants, agreements and obligations contained in the Contract Documents.

- 8.4** Nondiscrimination. The Contractor agrees to comply with all applicable federal and state laws and regulations regarding nondiscrimination, including but not limited to the Americans with Disabilities Act, the Equal Employment Opportunity Act, and the Rehabilitation Act of 1973, as such laws are amended and supplemented, and specifically agrees not to unlawfully discriminate against any individual because of race, religion, sex, age, color, national origin or disability, and to require such compliance in contractual agreements with subcontractors and sub-subcontractors.
- 8.5** Modification. Any modification to this contract shall be in writing, signed by all parties to the contract. If the contract price shall be increased above the amount authorized by the Owner's Board of Directors, any further increase in the contract price shall receive prior approval by both the Owner and, if applicable, the Owner's Board of Directors. All change and field orders shall be executed by the Owner. Individuals authorized to execute such change or field orders are the City Manager, Assistant City Manager, or Zoo Director.
- 8.6** This contract is governed by the laws of the State of Arkansas.
- 8.7** Nothing contained in the contract documents shall create a contractual relationship with, or cause of action in favor of, a third party against the Owner or Contractor.
- 8.8** Independent Contractor. The Contractor is not acting herein as an employee of the Owner, but shall, at times, and in all respects, have the rights and liabilities of an independent contractor.
- 8.9** If any provision of the Contract Documents shall be declared illegal, void or unenforceable by a court of competent jurisdiction, the other provisions shall not be affected.
- 8.10** The statute of limitation period shall be tolled for any fraudulent act committed by the Contractor that the Owner cannot discover upon due diligence.
- 8.11** The officials who have executed this contract hereby represent and warrant that they have full and complete authority to act on behalf of the Owner and Contractor, respectively, and that their signatures below, the terms and provisions hereof, constitute valid and enforceable obligations of each.
- 8.12** This contract shall be executed in duplicate originals, and any number of copies. Any copy of this contract so executed shall be deemed an original, and shall be deemed authentic for any other use.
- 8.13** Nothing stated within the Contract Documents shall be construed as limiting the Owner's immunity from liability in tort.
- 8.14** The Owner does not agree with or consent to arbitration or mediation of disputes relating to this contract or project.
- 8.15** The Contractor agrees that it shall indemnify and save harmless the Owner, its officers, agents, and employees from any claims or losses for services rendered by

any subcontractor, person or firm performing or supplying services, materials or supplies in connection with the performance of this contract.

8.16 The Contractor shall ensure that the Owner receives lien waivers from all subcontractors and sub-subcontractors before final payment on the Project. The Contractor shall give written notice to the subcontractors and sub-subcontractors providing Work on the project that states the following: *“According to Arkansas law, it is understood that no liens can be filed against public property if a valid and enforceable payment and performance bond is in place. Regarding this Project and Agreement, the valid and enforceable bonds are with _____.”* The Contractor shall have each subcontractor and sub-subcontractor execute a written receipt evidencing acknowledgment of this statement.

8.17 No Waiver of Enforcement of Contract Provisions. Failure of the Owner to enforce at any time any of the provisions of the Contract Documents, or to require at any time performance by the Contractor of any of the provisions hereof, shall in no way be construed to be a waiver of such provisions, nor in any way to affect the validity of this Agreement, or any part thereof, or the right of the Owner to thereafter enforce each and every such provision.

IN WITNESS WHEREOF, Owner and Contractor have signed this Agreement in duplicate.

OWNER:

CONTRACTOR:

CITY OF LITTLE ROCK

By: _____
Bruce T. Moore, City Manager

By: _____
(Print Name Below)

Date: _____

Date: _____

ATTEST:

Susan Langley, City Clerk

Date: _____

APPROVED AS TO LEGAL FORM:

Kim Chavis
Deputy City Attorney

Date: _____

Address for giving notices to City:

City Manager
500 West Markham
Little Rock, AR 72201

Address for giving notices to Contractor:

With an additional copy to:

Project Manager
1 Zoo Drive
Little Rock, AR 72205

Email: _____

**Contractor's Employer
Identification Number:** _____

GENERAL CONDITIONS

1. Definitions
2. Additional Instruction & Detail Drawings
3. Schedules, Reports & Records
4. Drawings and Specification
5. Shop Drawings
6. Materials, Services & Facilities
7. Inspection & Testing
8. Substitutions
9. Patents
10. Surveys, Permits & Regulations
11. Protection of Work, Property & Persons
12. Supervision by Contractor
13. Changes in the Work
14. Changes in Contract Price
15. Time for Completion & Liquidated Damages
16. Correction of Work
17. Subsurface Conditions
18. Suspension of Work, Termination & Delay
19. Payments to Contractor
20. Acceptance of Final Payment as Release
21. Insurance
22. Contract Security
23. Assignments
24. Indemnification
25. Separate Contracts
26. Subcontracting
27. Land & Rights of Way
28. Guaranty
29. Taxes
30. Architect's Authority

1. DEFINITIONS

- 1.1 Wherever used in the CONTRACT DOCUMENTS, the following terms shall have the meanings indicated which shall be applicable to both the singular and plural thereof:
- 1.2 AGREEMENT - Contract between the OWNER and CONTRACTOR regarding the PROJECT.

- 1.3** ADDENDA - Written or graphic instruments issued prior to the time of opening the bids which modify or interpret the CONTRACT DOCUMENTS, DRAWINGS and SPECIFICATIONS, by additions, deletions, clarification or corrections.
- 1.4** BID - the offer or proposal of the BIDDER submitted on the prescribed form setting forth the prices for the WORK to be performed.
- 1.5** BIDDER - any person, firm or corporation submitting a BID for the WORK.
- 1.6** BONDS - Bid, Performance, and Payment Bonds, and other instruments of security, furnished by the CONTRACTOR and his surety in accordance with the CONTRACT DOCUMENTS.
- 1.7** CHANGE ORDER - A written order to the CONTRACTOR authorizing an addition, deletion or revision of the WORK within the general scope of the CONTRACT DOCUMENTS, or authorizing an adjustment in the CONTRACT PRICE or CONTRACT TIME.
- 1.8** CONTRACT DOCUMENTS - The contract, including BID, AGREEMENT, Payment Bond, Performance Bond, General Conditions, SUPPLEMENTARY CONDITIONS; NOTICE OF AWARD, NOTICE TO PROCEED, CHANGE and FIELD ORDERS, DRAWINGS, SPECIFICATIONS, and ADDENDA.
- 1.9** CONTRACT PRICE - the total monies payable to the CONTRACTOR under the terms and conditions of the CONTRACT DOCUMENTS.
- 1.10** CONTRACT TIME - the number of calendar days stated in the CONTRACT DOCUMENTS for the completion of the WORK.
- 1.11** CONTRACTOR - the person, firm or corporation with whom the OWNER has executed the Agreement.
- 1.12** DRAWINGS - The part of the CONTRACT DOCUMENTS which show the characteristics and scope of the WORK to be performed and which have been prepared or approved by the ARCHITECT.
- 1.13** ARCHITECT- The person, firm or corporation named as such in the CONTRACT DOCUMENTS.
- 1.14** FIELD ORDER - A written order effecting a change in the WORK not involving an adjustment in the CONTRACT PRICE, or an extension of the CONTRACT TIME, issued by the ARCHITECT and OWNER to the CONTRACTOR during construction.

- 1.15** NOTICE OF AWARD - the written notice of the acceptance of the BID from the OWNER to the successful BIDDER.
- 1.16** NOTICE TO PROCEED - Written communication issued by the OWNER to the CONTRACTOR authorizing him to proceed with the WORK and establishing the date of commencement of the WORK.
- 1.17** OWNER - A public or quasi-public body or authority, corporation, association, partnership, or individual for whom the WORK is to be performed.
- 1.18** PROJECT - the undertaking to be performed as provided in the CONTRACT DOCUMENTS.
- 1.19** PROJECT COORDINATOR or RESIDENT PROJECT REPRESENTATIVE - The authorized representative of the OWNER who is assigned to the PROJECT site, or any part thereof.
- 1.20** SHOP DRAWINGS - All drawings, diagrams, illustrations, brochures, schedules and other data which are prepared by the CONTRACTOR, a SUBCONTRACTOR, MANUFACTURER, SUPPLIER or distributor, which illustrate how specific portions of the WORK shall be fabricated or installed.
- 1.21** SPECIFICATIONS - A part of the CONTRACT DOCUMENTS consisting of written descriptions of a technical nature of materials, equipment, construction systems, standards, and workmanship.
- 1.22** SUBCONTRACTOR - an individual, firm or corporation having a direct contract with the CONTRACTOR, or with any other SUBCONTRACTOR, for the performance of a part of the WORK at the site.
- 1.23** SUBSTANTIAL COMPLETION - That date, when the construction of the PROJECT, or a specified part thereof, is sufficiently completed in accordance with the CONTRACT DOCUMENTS, so that the PROJECT, or specified part, can be utilized for the purposes for which it is intended.
- 1.24** SUPPLEMENTARY CONDITIONS - Modifications to adapt the General Conditions to the specific requirements of the Project and that may be imposed by applicable federal, state, and local laws.
- 1.25** SUPPLIER - any person or organization who supplies materials or equipment for the WORK, including that fabricated to a special design, but who does not perform labor at the site.

- 1.26** WORK - All labor necessary to produce the construction required by the CONTRACT DOCUMENTS, and all materials and equipment incorporated or to be incorporated in the PROJECT. Unless otherwise specified, all materials shall be new, and both workmanship and materials shall be of a good quality. The CONTRACTOR shall, if required, furnish satisfactory evidence as to the kind and quality of materials.
- 1.27** WRITTEN NOTICE - Any notice to any party of the Agreement relative to any part of this Agreement shall be in writing and considered delivered and the service thereof completed, when posted by certified or registered mail to the said party or his authorized representative.

2. ADDITIONAL INSTRUCTION AND DETAIL DRAWINGS

- 2.1** The CONTRACTOR may be furnished additional instruction and detail drawings, by the ARCHITECT, as necessary to carry out the WORK required by the CONTRACT DOCUMENTS.
- 2.2** The additional drawings and instruction thus supplied will become a part of the CONTRACT DOCUMENTS. The CONTRACTOR shall carry out the WORK in accordance with the additional detail drawings and instructions.

3. SCHEDULES, REPORTS AND RECORDS

- 3.1** The CONTRACTOR shall submit to the OWNER, upon request, such schedule of quantities and costs, progress schedules, payrolls, reports, estimates, and other such records pertaining to the PROJECT.
- 3.2** Prior to the first partial payment estimate, the CONTRACTOR shall submit construction progress schedules showing the order in which he proposes to carry on the WORK, including dates at which he will start the various parts of the WORK, estimated date of completion of each part and, as applicable:
- 3.2.1** The dates at which special detail drawings will be required; and
- 3.2.2** Respective dates for submission of SHOP DRAWINGS, the beginning of manufacture, the testing and the installation of materials, supplies and equipment.

4. DRAWINGS AND SPECIFICATIONS

- 4.1** The intent of the DRAWINGS and SPECIFICATIONS is that the CONTRACTOR shall furnish all labor, materials, tools, equipment, and transportation necessary for the proper execution of the WORK in accordance with the CONTRACT DOCUMENTS, and all incidental work necessary to complete the PROJECT in an acceptable manner, ready for use, occupancy or operation by the OWNER.

- 4.2** It is understood and agreed that the CONTRACTOR has, by careful examination, satisfied himself as to the nature and location of the WORK, the conformation of the ground, the character of equipment and facilities needed preliminary to and during the execution of the WORK, the character, quality and quantity of the materials to be encountered, the general and local conditions, and all other matters which can, in any way, affect the WORK under this CONTRACT.
- 4.3** In case of conflict between the DRAWINGS and SPECIFICATIONS, the SPECIFICATIONS shall govern. Figure dimensions on DRAWINGS shall govern over scale dimensions, and detailed DRAWINGS shall govern over general DRAWINGS.
- 4.4** Any discrepancies found between the DRAWINGS and SPECIFICATIONS and site conditions, or any inconsistencies or ambiguities in the DRAWINGS or SPECIFICATIONS, shall be immediately reported to the ARCHITECT, in writing, who shall promptly correct such inconsistencies or ambiguities in writing. WORK done by the CONTRACTOR after his discovery of such discrepancies, inconsistencies or ambiguities shall be done at the CONTRACTOR'S risk.
- 4.5** CONTRACTOR acknowledges that, based upon the CONTRACTOR'S examination of the Drawings and Specifications which comprise a part of the Contract Documents, the CONTRACTOR has not observed anything in the Contract Documents indicating that same are incomplete or inconsistent or otherwise contain any error or omission that would cause the CONTRACTOR to be entitled to make any claim for increases in the CONTRACT PRICE or the CONTRACT TIME.
- 4.6** 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 complimentary, and what is required by one shall be as binding as if required by all; performance by the CONTRACTOR shall be required to the extent inferable from the CONTRACT DOCUMENTS as being necessary to produce the intended results given the CONTRACTOR'S experience in general construction. The SPECIFICATIONS are written in the imperative and abbreviated form. The imperative language is directed to the CONTRACTOR, unless specifically noted otherwise. Any incomplete sentences shall be completed by inserting "shall," "the CONTRACTOR shall," "shall be," and similar mandatory phrases by inference in the same manner as they are applied to notes on the DRAWINGS. The words "shall be" shall be supplied by inference where a colon (:) is used within sentences or phrases. Except as worded to the contrary, all indicated requirements shall be performed whether stated imperatively or otherwise. Further, whenever the term "WORK Includes" or "Section Includes" is used as an article or paragraph heading in a SPECIFICATIONS section, it is merely a listing of the significant items described within the section and is not intended to limit the scope of the section or to imply a trade responsibility.

4.7 Conflicts or discrepancies among the Contract Documents shall be resolved in the following order of priority:

1. The AGREEMENT;
2. AMENDMENTS and revisions of later date take precedence over those of earlier date;
3. SUPPLEMENTARY CONDITIONS;
4. The GENERAL CONDITIONS;
5. The Project Manual;
6. DRAWINGS and SPECIFICATIONS: DRAWINGS GOVERN SPECIFICATIONS for quantity and location, and SPECIFICATIONS govern for quality and performance. In the event of an ambiguity in quantity or quality, the greater quantity and the better quality shall govern;
7. Figure dimensions govern scale dimensions and large scale DRAWINGS govern small scale DRAWINGS; and,
8. SUBMITTALS; if and only if OWNER concludes, in its sole discretion, that a conflict or discrepancy cannot be otherwise resolved.

5. SHOP DRAWINGS

5.1 The CONTRACTOR shall provide SHOP DRAWINGS as may be necessary for the prompt prosecution of the WORK as required by the CONTRACT DOCUMENTS. The ARCHITECT shall promptly review all SHOP DRAWINGS.

5.2 When submitted for the ARCHITECT'S review, SHOP DRAWINGS shall bear the CONTRACTOR'S certification that he has reviewed, checked, and approved the SHOP DRAWINGS and that they are in conformance with the requirements of the CONTRACT DOCUMENTS.

5.3 Portions of the WORK requiring a SHOP DRAWING or sample submission shall not begin until the SHOP DRAWING or submission has been reviewed by the ARCHITECT. A copy of each processed SHOP DRAWING and each approved sample shall be kept in good order by the CONTRACTOR at the site and shall be available to the ARCHITECT AND OWNER.

6. MATERIALS, SERVICES AND FACILITIES

6.1 It is understood that, except as otherwise specifically stated in the CONTRACT DOCUMENTS, the CONTRACTOR shall provide and pay for all materials, labor, tools, equipment, water, sewer, light, utilities, power, transportation, supervision, temporary construction of any nature, and all other services and facilities of any nature whatsoever necessary to execute, complete, and deliver the WORK within the specified time.

- 6.2 Materials and equipment shall be so stored as to ensure the preservation of their quality and fitness for the WORK. Stored materials and equipment to be incorporated in the WORK shall be located so as to facilitate prompt inspection.
- 6.3 Manufactured articles, materials and equipment shall be applied, installed, connected, erected, used, cleaned and conditioned as directed by the manufacturer.
- 6.4 Materials, supplies and equipment shall be in accordance with samples submitted by the CONTRACTOR and approved by the ARCHITECT.
- 6.5 Materials, supplies or equipment to be incorporated into the WORK shall not be purchased by the CONTRACTOR or the SUBCONTRACTOR(S) subject to a chattel mortgage or under a conditional sale contract or other agreement by which an interest is retained by the seller.

7. INSPECTION AND TESTING

- 7.1 All materials and equipment used in the construction of the PROJECT shall be subject to adequate inspection and testing in accordance with generally accepted standards, as required and defined in the CONTRACT DOCUMENTS.
- 7.2 The OWNER shall provide all inspection and testing services not required by the CONTRACT DOCUMENTS.
- 7.3 The CONTRACTOR shall provide, at the CONTRACTOR'S expense, the testing and inspection services required by the CONTRACT DOCUMENTS, unless otherwise noted.
- 7.4 If the CONTRACT DOCUMENTS, laws, ordinances, rules, regulations, or orders of any public authority having jurisdiction require any WORK to specifically be inspected, tested, or approved by someone other than the CONTRACTOR, the CONTRACTOR shall give the ARCHITECT AND OWNER timely notice of readiness. The CONTRACTOR will then furnish the ARCHITECT AND OWNER the required certificates of inspection, testing or approval.
- 7.5 Inspections, tests, or approvals by the ARCHITECT, OWNER or others shall not relieve the CONTRACTOR from his obligations to perform the WORK in accordance with the requirements of the CONTRACT DOCUMENTS.
- 7.6 The ARCHITECT, OWNER and their **representatives** will, at all times, have access to the WORK. In addition, authorized representatives and agents of any participating federal or state agency shall be permitted to inspect all work, materials, and payrolls, records of personnel, invoices of materials, and other relevant data and records. The CONTRACTOR shall provide proper facilities for such access and observation of the WORK and also for any inspection or testing thereof.

7.7 If any WORK is covered contrary to the written instructions of the ARCHITECT OR OWNER, it shall, if requested by the ARCHITECT OR OWNER, be uncovered for their observation and replaced by the CONTRACTOR at no increase in Contract Price.

8. SUBSTITUTIONS

8.1 Whenever a material, article or piece of equipment is identified on the DRAWINGS or SPECIFICATIONS by reference to brand name or catalogue number, it shall be understood that this is referenced for the purpose of defining the performance or other salient requirements and that other products of equal capacities, quality and function shall be considered. The CONTRACTOR may recommend the substitution of a material, article, or piece of equipment of equal substance and function for those referred to in the CONTRACT DOCUMENTS by reference to brand name or catalogue number, and if, in the opinion of the OWNER, such material, article, or piece of equipment is of equal substance and function to that specified, the OWNER may approve its substitution and use by the CONTRACTOR. Any cost differential shall be deducted from the CONTRACT PRICE and the CONTRACT DOCUMENTS shall be appropriately modified by CHANGE ORDER. The CONTRACTOR warrants that if substitutes are approved, no major changes in the function or general design of the PROJECT will result. Incidental changes or extra component parts required to accommodate the substitute shall be made by the CONTRACTOR without a change in the CONTRACT PRICE or CONTRACT TIME.

9. PATENTS

9.1 The CONTRACTOR shall pay all applicable royalties and license fees. The CONTRACTOR shall defend all law suits or claims for infringement of any patent rights and save the OWNER AND ARCHITECT harmless from loss on account thereof; however, if the CONTRACTOR has reason to believe that the design, process or product specified is an infringement of a patent, he shall be responsible for such loss unless he promptly gives such information to the OWNER AND ARCHITECT.

10. SURVEYS, PERMITS, AND REGULATIONS

10.1 The OWNER will furnish all boundary surveys and establish all base lines for locating the principal component parts of the WORK, together with a suitable number of bench marks adjacent to the WORK as shown in the CONTRACT DOCUMENTS. From the information provided by the OWNER, unless otherwise specified in the CONTRACT DOCUMENTS, the CONTRACTOR shall develop and make all detail surveys needed for construction such as slope sheets.

10.2 The CONTRACTOR shall carefully preserve bench marks, reference points and stakes and, in case of willful or careless destruction, the CONTRACTOR shall be charged with the

resulting expense and shall be responsible for any mistakes that may be caused by their unnecessary loss or disturbance.

- 10.3** Permits and licenses of a temporary nature necessary for the prosecution of the WORK shall be secured and paid for by the CONTRACTOR unless otherwise stated in the SUPPLEMENTARY CONDITIONS. Permits, licenses and easements for permanent structures or permanent changes in existing facilities shall be secured and paid for by the OWNER, unless otherwise specified. The CONTRACTOR shall give all notices and comply with all laws, ordinances, rules and regulations bearing on the conduct of the WORK as drawn and specified. If the CONTRACTOR observes that the CONTRACT DOCUMENTS are at variance therewith, he shall promptly notify the ARCHITECT AND OWNER, in writing, and any necessary changes shall be adjusted as provided in Section 13, CHANGES IN THE WORK.

11. PROTECTION OF WORK, PROPERTY AND PERSONS

- 11.1** The CONTRACTOR shall be responsible for initiating, maintaining and supervising all safety precautions and programs in connection with the WORK. The CONTRACTOR will take all necessary precautions for the safety of, and will provide the necessary protection to prevent damage, injury or loss to all employees on the WORK and other persons who may be affected thereby, all the WORK and all materials or equipment to be incorporated therein, whether in storage on or off the site, and other property at the site or adjacent thereto, including trees, shrubs, lawns, walks, pavements, roadways, structures and utilities not designated for removal, relocation or replacement in the course of construction.
- 11.2** The CONTRACTOR shall comply with all applicable laws, ordinances, rules regulations and orders of any public body having jurisdiction. The CONTRACTOR shall erect and maintain, as required by the conditions and progress of the WORK, all necessary safeguards for safety and protection. The CONTRACTOR will notify owners of adjacent utilities when prosecution of the WORK may affect them. The CONTRACTOR shall remedy all damage, injury or loss to any property caused, directly or indirectly, in whole or in part, by the CONTRACTOR, any SUBCONTRACTOR or anyone directly or indirectly employed by any of them or anyone for whose acts any of them be liable, except damage or loss attributable to the fault of the CONTRACT DOCUMENTS or to the acts or omissions of the ARCHITECT or OWNER or anyone employed by them or anyone for whose acts either of them may be liable, and not attributable, directly or indirectly, in whole or in part, to the fault or negligence of the CONTRACTOR.
- 11.3** In emergencies affecting the safety of persons or the WORK or property at the site or adjacent thereto, the CONTRACTOR, without special instruction or authorization from the ARCHITECT or OWNER, shall act to prevent threatened damage, injury or loss. The CONTRACTOR shall give the ARCHITECT and OWNER prompt WRITTEN NOTICE of any significant changes in the WORK or deviations from the CONTRACT DOCUMENTS

caused thereby, and a CHANGE ORDER shall there upon be issued covering the changes and deviations involved.

- 11.4** The CONTRACTOR shall confine operations at the PROJECT site to areas permitted by law, ordinances, permits and this AGREEMENT and shall not unreasonably encumber the PROJECT site with materials or equipment.
- 11.5** The CONTRACTOR shall at all times keep the premises free from accumulation of waste materials or rubbish.

12. SUPERVISION BY CONTRACTOR

- 12.1** The CONTRACTOR shall supervise and direct the WORK. The CONTRACTOR shall be solely responsible for the means, methods, techniques, sequences and procedures of construction. The CONTRACTOR shall employ and maintain on the WORK a qualified supervisor or superintendent who shall have been designated in writing by the CONTRACTOR as the CONTRACTOR'S representative at the site. The supervisor shall have full authority to act on behalf of the CONTRACTOR, and all communications given to the supervisor shall be as if given to the CONTRACTOR. The supervisor shall be present on the site at all times as required to perform adequate supervision and coordination of the WORK.

13. CHANGES IN THE WORK

- 13.1** The ARCHITECT, UPON the OWNER's approval, may, at any time, as the need arises, order changes within the scope of the WORK without invalidating the Agreement. If such changes increase or decrease the amount due under the CONTRACT DOCUMENTS, or in the time required for performance of the WORK, an equitable adjustment shall be authorized by a CHANGE ORDER.
- 13.2** The ARCHITECT, UPON the OWNER's approval, may, at any time, by issuing a FIELD ORDER, make changes in the details of the WORK. The CONTRACTOR shall proceed with the performance of any changes in the WORK so ordered by the ARCHITECT and OWNER unless the CONTRACTOR believes that such FIELD ORDER entitles the CONTRACTOR to a change in CONTRACT PRICE or CONTRACT TIME, or both, in which event the CONTRACTOR shall give the ARCHITECT and OWNER WRITTEN NOTICE thereof within seven (7) days after the receipt of the ordered change. Thereafter, the CONTRACTOR shall document the basis for the change in CONTRACT PRICE or CONTRACT TIME within thirty (30) days. The CONTRACTOR shall not execute such changes pending the receipt of an executed CHANGE ORDER or further instruction from the ARCHITECT and OWNER.

14. CHANGES IN CONTRACT PRICE

- 14.1** The CONTRACT PRICE may be changed only by a CHANGE ORDER. The value of any WORK covered by a CHANGE ORDER or of any claim for increase or decrease in the CONTRACT PRICE shall be determined by one or more of the following methods in the order of precedence listed below:
- (A) Unit prices previously approved.
 - (B) An agreed lump sum.
 - (C) The actual cost for labor, direct overhead, materials, supplies, equipment, and other services necessary to complete the WORK.

15. TIME FOR COMPLETION AND LIQUIDATED DAMAGES

- 15.1** The date of beginning and the time for completion of the WORK are essential conditions of the CONTRACT DOCUMENTS and the WORK embraced shall be commenced on a date specified in the written NOTICE TO PROCEED.
- 15.2** The CONTRACTOR shall proceed with the WORK at such rate of progress to ensure full completion within the CONTRACT TIME. It is expressly understood and agreed, by and between the CONTRACTOR and the OWNER, that the CONTRACT TIME for the completion of the WORK described herein is a reasonable time, taking into consideration the average climatic and economic conditions and other factors prevailing in the locality of the WORK.
- 15.3** If the CONTRACTOR shall fail to complete the WORK within the CONTRACT TIME, or extension of time granted by the OWNER, then the CONTRACTOR shall pay, to the OWNER, the amount for liquidated damages as specified in Section 3.2 of the AGREEMENT for each calendar day that the CONTRACTOR shall be in default after the time stipulated in the CONTRACT DOCUMENTS.
- 15.4** The CONTRACTOR shall not be charged with liquidated damages or any excess cost when the delay in completion of the WORK is due to the following, and the CONTRACTOR has promptly given WRITTEN NOTICE of such delay to the ARCHITECT and OWNER:
- 15.4.1** to any preference, priority or allocation order duly issued by the ARCHITECT or OWNER;
 - 15.4.2** To unforeseeable causes beyond the control, and without the fault or negligence of, the CONTRACTOR, restricted to acts of God or of the public enemy, acts of the ARCHITECT or OWNER, acts of another CONTRACTOR in the performance of a contract with the OWNER, fires, floods, epidemics, quarantine restrictions, strikes and freight embargoes; and

15.4.3 to any delays of SUBCONTRACTORS occasioned by any of the causes specified in paragraphs 15.4.1 and 15.4.2 of this article.

16. CORRECTION OF WORK

- 16.1** The CONTRACTOR shall promptly remove from the premises all WORK rejected by the ARCHITECT or OWNER for failure to comply with the CONTRACT DOCUMENTS, whether incorporated in the construction or not, and the CONTRACTOR shall promptly replace and re-execute the WORK in accordance with the CONTRACT DOCUMENTS and without expense to the OWNER and shall bear the expense of making good all WORK of other CONTRACTORS destroyed or damaged by such removal or replacement.
- 16.2** All removal and replacement WORK shall be done at the CONTRACTOR'S expense. If the CONTRACTOR does not take action to remove such rejected WORK within ten (10) days after receipt of WRITTEN NOTICE, the OWNER may remove such WORK and store the materials at the expense of the CONTRACTOR.

17. SUBSURFACE CONDITIONS

- 17.1** The CONTRACTOR shall promptly, and before such conditions are disturbed, except in the event of an emergency, notify the ARCHITECT and OWNER by WRITTEN NOTICE of:
- 17.1.1** Subsurface or latent physical conditions at the site differing materially from those indicated in the CONTRACT DOCUMENTS; or
- 17.1.2** Unknown physical conditions at the site, of an unusual nature, differing materially from those ordinarily encountered and generally recognized as inherent in WORK of the character provided for in the CONTRACT DOCUMENTS.
- 17.2** The ARCHITECT and OWNER will promptly investigate the conditions, and if ARCHITECT and OWNER jointly find that such conditions do so materially differ and cause an increase or decrease in the cost of, or in the time required for, performance of the WORK, an equitable adjustment will be made and the CONTRACT DOCUMENTS will be modified by a CHANGE ORDER. Any claim of the CONTRACTOR for adjustment hereunder will not be allowed unless the CONTRACTOR has given the required WRITTEN NOTICE, provided that the ARCHITECT and OWNER may, if ARCHITECT and OWNER jointly determine the facts so justify, consider and adjust any such claims asserted before the date of final payment.

18. SUSPENSION OF WORK, TERMINATION AND DELAY

- 18.1** The OWNER may suspend the WORK, or any portion thereof, for a period of not more than ninety (90) days, or such further time as agreed upon by the CONTRACTOR, by WRITTEN NOTICE to the CONTRACTOR, which notice will fix the date on which WORK shall be resumed. The CONTRACTOR will be allowed an increase in the CONTRACT PRICE or an extension of the CONTRACT TIME, or both, directly attributable to any such suspension.
- 18.2** If the CONTRACTOR is adjudged as bankrupt or insolvent, or if the CONTRACTOR makes a general assignment for the benefit of the CONTRACTOR'S creditors, or if a trustee or receiver is appointed for the CONTRACTOR or for any of his property, or if the CONTRACTOR files a petition to take advantage of any debtor's act, or to reorganize under the bankruptcy or applicable laws, or if the CONTRACTOR repeatedly fails to supply sufficient skilled workmen or suitable materials or equipment, or if the CONTRACTOR repeatedly fails to make prompt payments to SUBCONTRACTORS or for labor, materials or equipment or if he disregards laws, ordinances, rules, regulations or orders of any public body having jurisdiction of the WORK, or if the CONTRACTOR otherwise violates any provision of the CONTRACT DOCUMENTS, then the OWNER may, without prejudice to any other right or remedy and after giving the CONTRACTOR and the CONTRACTOR'S surety a minimum of twenty (20) days' WRITTEN NOTICE, terminate the services of the CONTRACTOR and take possession of the PROJECT and of all materials, equipment, tools, construction equipment and machinery thereon owned by the CONTRACTOR, and finish the WORK by whatever method the OWNER may deem expedient. In such case, the CONTRACTOR shall not be entitled to receive any further payment until the WORK is finished. If the unpaid balance of the CONTRACT PRICE exceeds the direct and indirect costs of completing the PROJECT, including compensation for additional professional services, such excess WILL BE PAID TO THE CONTRACTOR. If such costs exceed such unpaid balance, the CONTRACTOR SHALL PAY THE DIFFERENCE TO THE OWNER. Such costs incurred by the OWNER will be incorporated in a CHANGE ORDER. **The OWNER has the right to withhold any such costs incurred by the OWNER from any payments due the CONTRACTOR.**
- 18.3** Where the CONTRACTOR'S services have been so terminated by the OWNER, said termination shall not affect any right of the OWNER against the CONTRACTOR then existing or which may thereafter accrue. Any retention or payment of monies by the OWNER due the CONTRACTOR will not release the CONTRACTOR from compliance with the CONTRACT DOCUMENTS.
- 18.4** After ten (10) days from delivery of a WRITTEN NOTICE to the CONTRACTOR, the OWNER may, without cause and without prejudice to any other right or remedy, elect to abandon the PROJECT and terminate the contract. In such case, the CONTRACTOR will be paid for all WORK executed up to the date of termination.

18.5 If, through no act or fault of the CONTRACTOR, the WORK is suspended for a period of more than ninety (90) days by the OWNER, or the WORK is suspended under an order of a court of competent jurisdiction for more than ninety (90) days, or the OWNER fails to pay the CONTRACTOR substantially the sum requested within sixty (60) days of approval and receipt of a request for payment by the OWNER, then the CONTRACTOR may, after thirty (30) days from delivery of a WRITTEN NOTICE to the OWNER, such thirty (30) day WRITTEN NOTICE also giving the OWNER an opportunity to cure any default, terminate the CONTRACT and recover from the OWNER payment for all WORK executed up to the date of termination. In addition and in lieu of terminating the CONTRACT, if the OWNER has failed to make any payment as aforesaid, the CONTRACTOR may, upon twenty (20) days WRITTEN NOTICE to the OWNER, stop the WORK until the CONTRACTOR has been paid all amounts then due, in which event and upon resumption of the WORK, CHANGE ORDERS shall be issued for adjusting the CONTRACT PRICE or extending the CONTRACT TIME, or both, to compensate for the costs and delays attributable to the stoppage of the WORK.

18.6 If, through no act or fault of the CONTRACTOR, the performance of all or any portion of the WORK is suspended, delayed, or interrupted as a result of a failure of the OWNER to act within the time specified in the CONTRACT DOCUMENTS, including default cure time periods, or if no time is specified, within a reasonable time, an adjustment in the CONTRACT PRICE or an extension of the CONTRACT TIME, or both, will be made by CHANGE ORDER to compensate the CONTRACTOR for the costs and delays directly caused by the failure of the OWNER.

19. PAYMENTS TO CONTRACTOR

19.1 At least ten (10) days before each progress payment falls due, but not more often than once a month, the CONTRACTOR shall submit to the ARCHITECT a Partial Payment Estimate filled out and signed by the CONTRACTOR covering the WORK performed during the period covered by the Partial Payment Estimate and supported by such data as the ARCHITECT or OWNER may reasonably require. If payment is requested on the basis of materials and equipment not incorporated in the WORK but delivered and suitably stored at or near the site, the partial payment estimate shall also be accompanied by such supporting data, satisfactory to the ARCHITECT and OWNER, as will establish the OWNER'S title to the material and equipment and protect the OWNER'S interest therein, including applicable insurance. The ARCHITECT will, within ten (10) days after receipt of each partial payment estimate, either indicate in writing the ARCHITECT'S approval of payment, or return the partial payment estimate to the CONTRACTOR indicating, in writing, the reasons for refusing to approve payment. In the latter case, the CONTRACTOR may make the necessary corrections and resubmit the partial payment estimate. The OWNER will, within thirty (30) days of presentation to the OWNER of an approved partial payment estimate, pay the CONTRACTOR a progress payment on the basis of the approved partial payment estimate. In accordance with Ark. Code Ann. § 22-9-604, the ARCHITECT will retain five percent

(5%) of the earned amount of the WORK progress shown on the partial payment estimate, excluding materials and equipment on hand but not installed, and upon certification by the ARCHITECT that the WORK progress is fifty percent (50%) complete, based on the adjusted contract price, there will be no additional retainage on account of WORK completed, in which case the remaining progress payments prior to SUBSTANTIAL COMPLETION will be in an amount equal to one hundred percent (100%) of the WORK completed. Further, upon certification of SUBSTANTIAL COMPLETION of the WORK, the retained amount may be reduced to only that amount necessary to assure completion. On completion and acceptance of a part of the WORK on which the price is stated separately in the CONTRACT DOCUMENTS, payment may be made in full, including retained percentages, less authorized deductions.

- 19.2** The request for payment may also include an allowance for the cost of such major materials and equipment which are suitably stored either at or near the site.
- 19.3** Prior to SUBSTANTIAL COMPLETION, the OWNER may use any completed or substantially completed portions of the WORK. Such use shall not constitute an acceptance of such portions of the WORK.
- 19.4** The OWNER will have the right to enter the premises for the purpose of doing work not covered by the CONTRACT DOCUMENTS. This provision shall not be construed as relieving the CONTRACTOR of the sole responsibility for the care and protection of the WORK, or the restoration of any damaged WORK, except such as may be caused by agents or employees of the OWNER.
- 19.5** Upon completion and acceptance of the WORK, and after the receipt of all lien waivers and other proper documentation from the CONTRACTOR, the OWNER will sign the final payment request as its certification that the WORK has been accepted by the OWNER under the conditions of the CONTRACT DOCUMENTS. The entire balance found to be due the CONTRACTOR, including the retained percentages, but except such sums as may be lawfully retained by the OWNER, will be paid to the CONTRACTOR within thirty (30) days of completion and final acceptance of the WORK by the OWNER.
- 19.6** The CONTRACTOR shall indemnify and save the ARCHITECT and OWNER, or the ARCHITECT'S and OWNER'S agents, harmless from all claims growing out of the lawful demands of SUBCONTRACTORS, laborers, workmen, mechanics, materialmen, and furnishers of machinery and parts thereof, equipment, tools, and all supplies, incurred in the furtherance of the performance of the WORK. The CONTRACTOR shall furnish the OWNER and ARCHITECT satisfactory evidence that all obligations of the nature designated above have been paid, discharged, or waived. If the CONTRACTOR fails to do so, the OWNER may, after having notified the CONTRACTOR, either pay unpaid bills or withhold from the CONTRACTOR'S unpaid compensation a sum of money deemed reasonably sufficient to pay any and all such lawful claims until satisfactory evidence is furnished that

all liabilities have been fully discharged, where upon payment to the CONTRACTOR shall be resumed, in accordance with the terms of the CONTRACT DOCUMENTS, but in no event shall the provisions of this sentence be construed to impose any obligations upon the ARCHITECT or OWNER to either the CONTRACTOR, his Surety, or any third party. In paying any unpaid bills of the CONTRACTOR, any payment, so made by the OWNER shall be considered as a payment made under the CONTRACT DOCUMENTS by the OWNER to the CONTRACTOR and the OWNER will not be liable to the CONTRACTOR for any such payments made in good faith.

19.7 The CONTRACTOR warrants that upon submittal of a request for payment, all work for which payment has been received by the CONTRACTOR shall 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 or equipment relating to the work or project.

19.8 Any payment to the CONTRACTOR by the OWNER, final or otherwise, shall not constitute an acceptance of any WORK not in accordance with the CONTRACT DOCUMENTS.

20. ACCEPTANCE OF FINAL PAYMENT AS RELEASE

20.1 The acceptance by the CONTRACTOR of final payment shall be and shall operate as a release to the OWNER of all claims and all liability to the CONTRACTOR, other than claims in stated amounts as may be specifically excepted by the CONTRACTOR, for all things done or furnished in connection with this WORK and for every act and neglect of the OWNER and others relating to, or arising out of, this WORK. Any payment, however, final or otherwise, will not release the CONTRACTOR or his sureties from any obligations under the CONTRACT DOCUMENTS or the Performance BOND and Payment BOND.

21. INSURANCE

21.1 Contractor's Liability Insurance: CONTRACTOR shall purchase and maintain, in a company or companies licensed to do business in the State of Arkansas, such commercial general liability and other insurance as is appropriate for the WORK being performed and furnished and as will provide protection from claims set forth below which may arise out of or result from CONTRACTOR'S performance and furnishing of the WORK and CONTRACTOR'S other obligations under the CONTRACT DOCUMENTS, whether it is to be performed or furnished by CONTRACTOR, by any Subcontractor, by anyone directly or indirectly employed by any of them to perform or furnish any of the WORK, or by anyone for whose acts any of them may be liable:

- 21.1.1** Claims under workers or workmen's compensation, disability benefits, and other similar employee benefit acts;
 - 21.1.2** Claims for damages because of bodily injury, occupational sickness or disease, or death of CONTRACTOR'S employees;
 - 21.1.3** Claims for damages because of bodily injury, sickness or disease, or death of any person other than CONTRACTOR'S employees;
 - 21.1.4** Claims for damages insured by personal injury liability coverage which are sustained (a) by any person as a result of an offense directly or indirectly related to the employment of such person by CONTRACTOR, or (b) by any other person for any other reason;
 - 21.1.5** Claims for damages, other than to the Work itself, because of injury to or destruction of tangible property wherever located, including loss of use resulting therefrom;
 - 21.1.6** Claims arising out of operation of Laws or Regulations for damages because of bodily injury or death of any person or for damage to property;
 - 21.1.7** Claims for damages because of bodily injury or death of any person or property damage arising out of the ownership, maintenance or use of any motor vehicle; and
 - 21.1.8** Claims involving contractual liability insurance applicable to the Contractor's obligations under Article 24.
- 21.2** The insurance required by paragraph 21.1 shall include the specific coverages and be written for not less than the limits of liability and coverages provided in the SUPPLEMENTARY CONDITIONS, or required by law, whichever is greater. All such insurance shall remain in effect until final payment and at all times thereafter when CONTRACTOR may be correcting, removing, or replacing defective WORK in accordance with paragraph 28.1. In addition, CONTRACTOR shall maintain completed operations insurance for at least one (1) year after date of final completion and furnish OWNER with evidence of continuation of such insurance at final completion.
- 21.3** The CONTRACTOR shall purchase and maintain in the name of the ARCHITECT and OWNER an Owner's and Contractor's Protective Liability Policy as will protect the ARCHITECT and OWNER against claims which may arise from operations under the contract. Coverage shall not exceed coverage of CONTRACTOR'S Commercial General Liability policy.

- 21.4** The CONTRACTOR shall acquire and maintain, if applicable, Fire and Extended Coverage insurance upon the PROJECT to the full insurable value thereof for the benefit of the OWNER, the CONTRACTOR, and SUBCONTRACTORS as their interest may appear. This provision shall in no way release the CONTRACTOR or CONTRACTOR'S surety from obligations under the CONTRACT DOCUMENTS to fully complete the PROJECT.
- 21.5** The CONTRACTOR shall procure and maintain, at the CONTRACTOR'S own expense, during the CONTRACT TIME, in accordance with the provisions of the laws of the state in which the WORK is performed, Workers' Compensation Insurance, including occupational disease provisions, for all of CONTRACTOR'S employees at the site of the PROJECT and in case any work is sublet, the CONTRACTOR shall require such SUBCONTRACTOR similarly to provide Workers' Compensation Insurance, including occupational disease provisions for all of the latter's employees unless such employees are covered by the protection afforded by the CONTRACTOR. In case any class of employees engaged in hazardous work under this AGREEMENT at the site of the PROJECT is not protected under Workers' Compensation statute, the CONTRACTOR shall provide, and shall cause each SUBCONTRACTOR to provide, adequate and suitable insurance for the protection of his employees not otherwise protected.
- 21.6** Certificates of Insurance acceptable to the Owner shall be filed with the Owner prior to commencement of the Work. These Certificates and the insurance policies required by Paragraph 21.1 shall contain a provision that coverages afforded under the policies will not be canceled or allowed to expire until at least thirty (30) days' prior written notice has been given to the Owner.

22. CONTRACT SECURITY

- 22.1** The CONTRACTOR shall, within ten (10) days after the receipt of the NOTICE OF AWARD, furnish the OWNER with a Performance BOND and a Payment BOND, each in penal sums equal to the amount of the CONTRACT PRICE, conditioned upon the performance by the CONTRACTOR of all undertakings, covenants, terms, conditions and agreements of the CONTRACT DOCUMENTS, and upon the prompt payment by the CONTRACTOR to all persons supplying labor and materials in the prosecution of the WORK provided by the CONTRACT DOCUMENTS. Such BONDS shall be executed by the CONTRACTOR and a corporate bonding company licensed to transact such business in the state in which the WORK is to be performed and named on the current list of "Surety Companies Acceptable on Federal Bonds" as published in the Treasury Department Circular Number 570. The expense of these BONDS shall be borne by the CONTRACTOR. If, at any time, a surety on any such BOND is declared a 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 Acceptable on Federal Bonds," CONTRACTOR shall, within ten (10) days after notice from the OWNER to do so, substitute an acceptable BOND (or BONDS) in such form and sum and signed by such other surety or sureties as may be satisfactory to the OWNER.

The premiums on such BOND shall be paid by the CONTRACTOR. No further payments shall be deemed due nor shall be made until the new surety or sureties shall have furnished an acceptable BOND to the OWNER.

23. ASSIGNMENTS

23.1 Neither the CONTRACTOR nor the OWNER shall sell, transfer, assign or otherwise dispose of this AGREEMENT, the CONTRACT DOCUMENTS, or any portion thereof, or of the right, title or interest therein, or any obligation thereunder, without written consent of the other party.

24. INDEMNIFICATION

24.1 The CONTRACTOR shall indemnify and hold harmless the OWNER, and their agents and employees, from and against all claims, damages, losses and expenses, including attorney's fees, arising out of or resulting from the performance of the WORK, provided that any such claims, damage, loss or expense is attributable to bodily injury, sickness, disease or death, or to injury to or destruction of tangible property, including the loss of use resulting therefrom, and is caused in whole or in part by any negligent or willful act or omission of the CONTRACTOR, any SUBCONTRACTOR, anyone directly or indirectly employed by any of them, or anyone for whose acts any of them may be liable.

24.2 In any and all claims against the OWNER, or any of their agents or employees, by any employee of the CONTRACTOR, any SUBCONTRACTOR, anyone directly or indirectly employed by any of them, or anyone for whose acts any of them may be liable, the indemnification obligation shall not be limited in any way by any limitation on the amount or type of damages, compensation of benefits payable by or for the CONTRACTOR or any SUBCONTRACTOR under workmen's compensation acts, disability benefit acts or other employee benefits acts.

24.3 CONTRACTOR hereby releases, indemnifies and holds harmless the OWNER, its officers, agents and employees from and against any and all loss, damage and expense including, but not limited to; any claim, demand or action for injury, liability or damage to persons or property or, for loss of life; and any and all claims or actions brought by any person, firm, government body or other entity, resulting from, arising from or in connection with contamination of, or threatened contamination of, or adverse effects on, the environment, or violation of any environmental or other statute, ordinance, rule, regulation, order, permit or judgment of any government or judicial entity; and from and against any damages, liabilities, costs, fees, fines, charges, causes of action, law suits, judgments and penalties assessed, including, but not limited to, reasonable investigation and legal expenses in connection with defending any such action, arising from any matter or circumstance on the property regarding the performance of the Work and services under the Agreement between the

CONTRACTOR, its officers, agents, employees and assigns, and the OWNER for Work and services provided to the OWNER pursuant to such Agreement.

To evidence proper disposal of all solid waste associated with the Work performed under said Agreement in a legally permitted solid waste disposal facility, CONTRACTOR will provide the OWNER with a receipt for each dump load of solid waste so disposed.

- 24.4** The obligation of the CONTRACTOR under this paragraph shall not extend to the liability of the ARCHITECT, its agents or employees, arising out of the preparation or approval of maps, DRAWINGS, opinions, reports, surveys, CHANGE ORDERS, designs or SPECIFICATIONS.

25. SEPARATE CONTRACTS

- 25.1** The OWNER reserves the right to let separate contracts for this PROJECT. The CONTRACTOR shall afford other contractors reasonable opportunity for the introduction and storage of their materials and the execution of their WORK, and shall properly connect and coordinate its WORK with theirs. If the proper execution or results of any part of the CONTRACTOR'S WORK depends upon the WORK of any other contractor, the CONTRACTOR shall inspect and promptly report to the ARCHITECT and OWNER any defects in such WORK that render it unsuitable for such proper execution and results.

- 25.2** The OWNER may perform additional WORK related to the PROJECT itself, or the OWNER may let other contracts containing provisions similar to these CONTRACT DOCUMENTS. The CONTRACTOR will afford the other contractors who are parties to such contracts, or the OWNER if the OWNER is performing the additional WORK, reasonable opportunity for the introduction and storage of materials and equipment and the execution of WORK, and shall properly connect and coordinate his WORK with theirs.

- 25.3** If the performance of additional WORK by other contractors or the OWNER is not noted in the CONTRACT DOCUMENTS prior to the execution of the CONTRACT, WRITTEN NOTICE thereof shall be given by the OWNER to the CONTRACTOR prior to starting any such additional WORK. If the CONTRACTOR believes that the performance of such additional WORK by the OWNER or others involves additional expense to the CONTRACTOR, or entitles the CONTRACTOR to an extension of the CONTRACT TIME, the CONTRACTOR may make a claim therefor as provided in Sections 14 and 15.

26. SUBCONTRACTING

- 26.1** The CONTRACTOR may utilize the services of specialty SUBCONTRACTORS on those parts of the WORK which, under normal contracting practices, are performed by specialty SUBCONTRACTORS.

- 26.2** All SUBCONTRACTORS and material suppliers utilized on this Project shall be experienced in the type of work required by the Project, reputable, qualified and shall be acceptable to the OWNER.
- 26.3** The CONTRACTOR shall be fully responsible to the OWNER for the acts and omissions of the CONTRACTOR'S SUBCONTRACTORS and material suppliers on this PROJECT, and of persons either directly or indirectly employed by them, as the CONTRACTOR is for the acts and omissions of persons directly employed by the CONTRACTOR.
- 26.4** The CONTRACTOR shall cause appropriate provisions to be inserted in all subcontracts relative to the WORK to bind SUBCONTRACTORS to the CONTRACTOR by the terms of the CONTRACT DOCUMENTS insofar as applicable to the WORK of SUBCONTRACTORS, and to give the CONTRACTOR the same power as regards terminating any subcontract that the OWNER may exercise over the CONTRACTOR under any provision of the CONTRACT DOCUMENTS.
- 26.5** Nothing contained in the CONTRACT DOCUMENTS will create any contractual relationship between any SUBCONTRACTOR or material supplier and the OWNER.

27. LAND AND RIGHTS-OF-WAY

- 27.1** Prior to issuance of NOTICE TO PROCEED, the OWNER will obtain all land and rights-of-way necessary for carrying out and for the completion of the WORK to be performed pursuant to the CONTRACT DOCUMENTS, unless otherwise mutually agreed.
- 27.2** The OWNER will provide to the CONTRACTOR information which delineates and describes the lands owned and rights-of-way acquired.
- 27.3** The CONTRACTOR shall provide at the CONTRACTOR'S own expense and without liability to the OWNER any additional land and access thereto that the CONTRACTOR may desire for temporary construction facilities, or for storage of materials.

28. GUARANTY

- 28.1** The CONTRACTOR shall guarantee all materials and equipment furnished and WORK performed for a period of one (1) year from the date of SUBSTANTIAL COMPLETION. The CONTRACTOR warrants and guarantees, for a period of one (1) year from the date of SUBSTANTIAL COMPLETION of the system and PROJECT, that the completed system and PROJECT are free from all defects due to faulty materials or workmanship, and the CONTRACTOR shall promptly make such corrections as may be necessary by reason of such defects, including the repairs of any damage to other parts of the system or PROJECT resulting from such defects. The OWNER will give notice of observed defects with reasonable promptness. In the event that the CONTRACTOR should fail to make such

repairs, adjustments, or other WORK that may be made necessary by such defects, the OWNER may do so and charge the CONTRACTOR the cost thereby incurred. The Performance BOND shall remain in full effect throughout the guarantee period.

29. TAXES

- 29.1** The CONTRACTOR shall pay all sales, consumer, use and other similar taxes required by the law of the place where the WORK is performed.

30. ARCHITECT'S RESPONSIBILITIES

- 30.1** The ARCHITECT will act as the OWNER'S representative during the construction period. The ARCHITECT will jointly decide with the OWNER questions which may arise as to quality and acceptability of materials furnished and WORK performed. The ARCHITECT and the OWNER will jointly interpret the intent of the CONTRACT DOCUMENTS in a fair and unbiased manner. The ARCHITECT or OWNER will make visits to the site and determine if the WORK is proceeding in accordance with the CONTRACT DOCUMENTS.
- 30.2** The CONTRACTOR will be held strictly to the intent of the CONTRACT DOCUMENTS in regard to the quality of materials, workmanship, and execution of the WORK. Inspections may be made at the factory or fabrication plant of the source of material supply.
- 30.3** The ARCHITECT will not be responsible for the construction means, controls, techniques, sequences, procedures, or construction safety.
- 30.4** The ARCHITECT and OWNER will jointly make prompt decisions relative to interpretation of the CONTRACT DOCUMENTS.

END OF DOCUMENT

SECTION 01300
SUBMITTALS AND SUBSTITUTIONS

PART 1 - GENERAL

- 1.01 SCOPE: Provide all submittals, including shop drawings, product data, samples, schedules and requests for substitutions as required by the bidding and contract documents in strict accordance with the provisions of this section.
- 1.02 RELATED WORK SPECIFIED IN OTHER SECTIONS:
- A. Detailed Individual Submittals Required are covered in pertinent sections of these specifications.

PART 2 - PRODUCTS

2.01 SUBSTITUTIONS:

- A. Prior to bidding approval is required only on those items so specified in each section. Other materials do not require prior to bidding approval.
- B. After Award of Contract substitution Requests:
1. Substitution requests will be considered only under one of the following conditions:
 - a. Unavailability of specified product due to a strike, lockout, bankruptcy, discontinuance of the manufacture of a product or natural disasters. Submit proof that orders were placed within three days after review by the Architect of the item listed in the specifications. Failure to order materials in time for proper delivery is not an acceptable condition.
 - b. When guarantee of performance is required and, in the judgment of the contractor, the specified product or process will not produce the desired result.
 2. Submit request for such substitutions in writing to the Architect within ten days of the date of ascertaining unavailability of material or equipment specified, or that the performance cannot be guaranteed.
 3. If any substitution will affect a correlated function, adjacent construction or the work of other trades or contractors, the necessary changes and modifications to the affected work will be considered as part of the substitution, to be accomplished without additional cost to the Owner, if and when accepted.
 4. Approved substitutions will be affected by a change order. Under no circumstances shall the Architect's acceptance of any such substitution relieve the contractor from timely, full and proper performance of the work.
- C. No substitutes allowed: Some materials specified are the only acceptable products allowed. No substitutions will be allowed. These products are identified by a no-substitution clause in that section of this specification.

2.02 SHOP DRAWINGS:

- A. Submit required shop drawings drawn to a scale sufficiently large to show all pertinent features of the item and its method of connection to the work. Submit related shop drawings together, partial submittals will not be accepted. Provide manufacturer's name and model number of prefabricated items and indicated methods of attachment and clearances required relative to other trades affecting all elements of the work. Identify deviations from the contract documents (if any). check dimensions, check that trades have been coordinated and that no conflict will develop in this installation. After reviewing the shop drawings, indicate contractor's approval by signing and dating on contractor's stamp. Failure to follow these procedures will result in rejection of the submission and no additional contract time will be allowed for the delay from this cause.
- B. Submit one transparency and one print of contractor's stamped and approved shop drawings for Architect's review. The Architect will review the transparency and stamp it with indication of action as appropriate. The Architect will retain the print for his record, and will return the transparency to the Contractor. For transparencies returned "Return for Correction - Re-Submit" correct the original drawings, make a new transparency reproduction and print, and re-submit. For transparencies returned "Approved Subject to Contract Requirements" or "Approved as Noted", provide each number of prints of the transparency as may be needed for field distribution.

2.03 PRODUCT DATA AND SAMPLES: Submit 3 copies of product data for Architect's review for items specified in the various specification sections (five copies required for mechanical and electrical data). Make all submissions affecting color selection within thirty days after signing the contract. Mark data clearly to indicate exact items submitted, and note deviations from contract documents (if any). After reviewing the submittals, indicate approval by signing and dating on contractor's stamp, and submit to the Architect for review.

2.04 PROJECT 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. Identify phases, if required.
- 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 the month. Indicate percentage of completion on time bars at 10% increase.
- D. Submit progress schedule on transparency or other reproducible stock.
- E. Distribute progress schedule including all updates to Architect, Owner, subcontractors, suppliers, fabricators, and others with a need to know schedule compliance requirements. Post copy in field office.

2.05 SCHEDULE OF VALUES: Submit schedule of values on AIA Document G703 (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 listed).

- 2.06 APPLICATION AND CERTIFICATION FOR PAYMENT: Submit Application and Certificate for Payment on AIA Document G702 and G703 (latest edition).
- 2.07 CHANGE ORDERS: Submit standard form provided by Architect for submitting proposals for Change Orders.
- 2.08 MANUAL: Upon completion of work, and prior to the final payment, submit to the Architect a loose leaf hard cover binder with the project name printed on it, containing five indexed sections as follows:
- A. Subcontractors: A listing of all subcontractors for the project, including portions of work done, address and telephone number of the firm familiar with the project.
 - B. Guarantee and Warranty: One fully executed copy of each guarantee and warranty period.
 - C. Certificates: One fully executed copy of each certificate specified.
 - D. Instructions: One operating service and maintenance manual or instruction sheet for each item specified.
 - E. List of As-Built Drawings, Record Drawings, Shop Drawings, Product Data and Samples.
- 2.09 DRAWINGS AND SUBMITTALS PACKAGE: Upon completion of the work and prior to the final payment, submit to the Architect a package labeled with the project name and containing one copy of all final record drawings, specifications, shop drawings, product data and samples (see AIA A201, Paragraph 4.111.). This package and the manual will be presented by the Architect to the Owner upon completion of the project. In addition, submit one set of record drawings to be retained by the Architect.

PART 3 - EXECUTION

- 3.01 IDENTIFICATION OF SUBMITTALS: Completely identify each submittal and re-submittal by showing at least the following information.
- A. Name and address of submitter, plus name and telephone number of the individual who may be contracted 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 re-submittal.
- 3.02. 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 re-submittal 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 01300

SECTION 01700
CONTRACT CLOSEOUT

PART 1 GENERAL

1.01 REQUIREMENTS INCLUDE:

- A. Closeout procedures
- B. Final cleaning of rooftop, building and grounds
- C. Manufacturer's and Contractor's warranties

1.02 RELATED REQUIREMENTS:

- A. Section 01500- Construction Facilities and Temporary Controls.
- B. Section 01740- Warranties

1.03 CLOSEOUT PROCEDURES

- A. When the contractor considers the work has reached final completion, submit written certification that Contract Documents have been reviewed, the work has been inspected and that work is complete in accordance with Contract Documents.
- B. In addition to submittals required by the conditions of the Contract, provide submittals required by governing authorities, and submit a final statement of accounting, giving total adjusted Contract Sum, previous payments and sum remaining due. Submit required documentation the Architect (Release of Lien, Consent of Surety for Final Payment- if contract amount is over \$20,000).

1.04 FINAL CLEANING OF ROOFTOP, BUILDING AND GROUNDS

- A. Execute prior to final inspection.

1.05 MANUFACTURER'S AND CONTRACTOR'S WARRANTIES:

- A. Submit all written (original) to the Architect, for approval and distribution, as specified in Section 01740, prior to final application for payment.

END OF SECTION

SECTION 01740
WARRANTIES

PART 1- GENERAL

1.01 REQUIRED WARRANTIES

- A. Manufacturer's Full Value Warranty covering all materials and products installed in the project shall be provided by the contractor. The contractor shall furnish the manufacturer's printed warranty registration, upon issuance by the manufacturer.
- B. Installer's regular one year guarantee for all products and materials and extended guarantees on other products specified in the Mechanical and Electrical section of the specification shall be issued by the contractor , and shall be printed and signed on contractors letter head shall include the following:
 - 1. Expiration dated for specified time after the date of Owner's final acceptance of the roof work.
 - 2. Signed by the company's owner or corporation president.
 - 3. Guarantor shall agree to repair or replace defective materials and/or workmanship to keep building and it's systems free of defects and in good working order for a specified period from the date of final acceptance.

1.02 CONTRACTOR'S PROJECT WARRANTY CLOSE-OUT RESPONSIBILITIES

- A. Contractors are required to do all work necessary to secure reviews, approvals, inspections, etc., as required by the roofing materials manufacturer, to execute roof warranties.
- B. Deliver warranties to the Architect.
- C. Project cannot be close-out or final payment released until all warranties have been received, reviewed, and approved by the Architect.
- D. Warranties are considered part of the work. Contractors unable to provide manufacturer's warranties, as specified, will be rejected.

PART 2- PRODUCTS- Not Used

PART 3- EXECUTION- Not Used

END OF SECTION

SECTION 02060
SELECTIVE DEMOLITION

PART 1- GENERAL

- 1.01 SUMMARY: Provide building demolition work, complete. Work includes:
- A. Demolition and removal of sections of existing buildings and tree roots as shown on the drawings.
 - B. Removal of plants and soil for adequate drainage and for new exhibit installation as shown on the drawings.
- 1.02 WORK BY OWNER: Disconnecting of utilities. All landscaping and landscape installation will be provided by the Owner.
- 1.03 SUBMITTALS: Comply with Section 01300.
- A. Schedule of Demolition Activities: Provide schedule which Indicates the following:
 - 1. The demolition work in this project will be completed so that work can proceed according to schedule. Demolition work will follow Phasing schedule of other work.
 - 2. Detailed sequence of demolition and removal work, with starting and ending dates for each activity.
 - 3. Interruption of utility services.
 - 4. Coordination for shutoff and continuation of utility services.
- 1.04 QUALITY ASSURANCE:
- A. Regulatory Requirements: Comply with governing EPA notification regulations before beginning demolition. Comply with hauling and disposal regulations of authorities having jurisdiction.
 - B. Standards: Comply with ANSI A10.6 and NFPA 241.
- 1.05 PROJECT CONDITIONS:
- A. Animals will be housed immediately adjacent to demolition area. Conduct building demolition so animals will be minimally effected.
 - 1. Provide not less than 72 hours' notice to Keepers of activities that will affect Owner's operations.
 - B. **Hazardous Materials: It is not expected that hazardous materials will be encountered in the work.**
 - 1. Asbestos and lead based paint will be removed by the owner before the start of work.

- C. Damages: Promptly repair damages caused to adjacent utilities and facilities by demolition operations at no cost to the owner.

PART 2- PRODCUST (NOT APPLICABLE)

PART 3- EXECUTION

- 3.01 EXAMINATION: Survey existing conditions and correlate with requirements indicated to determine extent of building demolition required.
- 3.02 PREPARATION:
 - A. Existing Utilities:
 - 1. Arrange for shut off of indicated utilities with owner.
 - 2. If utility services are required to be removed, related or abandoned, before proceeding with building demolition provide temporary utilities that bypass buildings and structures to be demolished and that maintain continuity of service to other buildings and structures.
- 3.03 PROTECTION:
 - A. Existing Items to Remain: Protect items indicated to remain against damage and soiling during demolition.
 - B. Existing Utilities: Maintain utility services indicated to remain and protect them against damage during demolition operations.
 - 1. Do not interrupt existing utilities serving adjacent occupied and operating facilities unless authorized in writing by Owner.
 - 2. Provide temporary services during interruptions to existing utilities, as acceptable to Owner.
 - a. Provide at least 72 hours notice to Owner if shutdown of service is required.
- 3.04 DEMOLITION, GENERAL:
 - A. General: Demolish indicated items completely. Use methods required to complete the work within limitations of governing regulations.
 - B. Site Access and Temporary Controls: Conduct building demolition and debris-removal operations to ensure minimum interferences with roads, streets, walks and other adjacent occupied and used facilities.
- 3.05 DISPOSAL OF DEMOLISHED MATERIALS:
 - A. Disposal: Transport demolished materials off property and legally dispose of them.

END OF SECTION

SECTION 02110
SITE CLEARING

PART 1- GENERAL

1.01 SCOPE:

- A. Clearing and grubbing site.
- B. Disposing of removed material.

1.02 RELATED WORK:

- A. Section 02210- Site Grading

PART 2- PRODUCTS

No Products Included

PART 3- EXECUTION

3.01 SITE PREPARATION AND PROTECTION

- A. Protection of Existing Improvements:
 - 1. Provide protections necessary to prevent damage to existing improvements indicated to remain in place.
 - 2. Protect improvements on adjoining properties.
 - 3. Restore damaged improvements to their original condition, as acceptable to Architect/ Engineer.
- B. Protection of Existing Trees and Vegetation:
 - 1. Protect existing trees and other vegetation, indicated to remain in place, against unnecessary cutting, breaking or skinning of roots, skinning and bruising of bark, smothering of trees by stockpiling construction materials or excavated materials within drip line, excess foot or vehicular traffic, or parking of vehicles within drip line. Provide temporary guards to protect trees and vegetation to be left standing.
 - 2. Water trees and other vegetation to remain within limits of contract work as required to maintain their health during course of construction operations.
 - 3. Repair or replace trees and vegetation indicated to remain which are damaged by construction operations, in a manner acceptable to the Architect/ Engineer. Employ qualified tree surgeon to repair damage to trees and shrubs.

3.02 SITE CLEARING:

- A. General: Clear construction areas of vegetation, improvements, debris or other obstructions interfering with installation of new construction. Remove such items elsewhere on site or premises as specifically indicated. Removal includes digging out stumps and roots.
- B. Removal of Improvements: Remove above-grade and below-grade improvements necessary to permit construction, and other work as indicated.
- C. Abandonment or removal of certain underground pipe or conduits may be shown on mechanical or electrical drawings, and is included under work of those sections. Removal of all other abandoned underground piping or conduit interfering with construction is included under this section.

3.03 DISPOSAL OF WASTE MATERIALS:

- A. Burning is not permitted on Owner's property.
- B. Remove cleared waste materials from Owner's property and dispose of at an off site located secured by the contractor.

END OF SECTION

SECTION 02200
EARTHWORK

PART 1 - GENERAL

- 1.01 SCOPE: Provide earthwork, complete, including excavation, placement, stabilization and compaction of earth.
- 1.02 RELATED WORK SPECIFIED IN OTHER SECTIONS:
 - A. Site Preparation: Section 02100
- 1.03 TESTING AND INSPECTION: Employ, at Contractor's expense, a testing laboratory acceptable to the Architect to perform soil testing and inspection service.
- 1.04 SUBMITTALS AND SAMPLES:
 - A. SUBMITTALS: In compliance with Section 01300, submit field density test reports.
 - B. SAMPLES:
 - 1. Notify architect/engineer four (4) days minimum in advance of intention to import material.
 - 2. Designate the proposed borrow area and permit architect/engineer to sample as necessary for acceptance test.
- 1.05 JOB CONDITIONS:
 - A. SITE INFORMATION:
 - 1. Results of the soils investigation is available at the office of the Architect and Contractor.
 - 2. Data on indicated subsurface condition are not intended as representations or warranties of accuracy or continuity between soil borings.
 - B. EXISTING UTILITIES:
 - 1. Locate existing underground utilities in the area of work. Provide adequate means of protections 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.
 - 2. Do not interrupt existing utilities servicing facilities occupied and used by Owner and others, except when permitted in writing by Architect and then only after acceptable temporary utility services have been provided.

- C. PROTECTION: Protect structure, utilities, sidewalks, pavements, and other facilities from damage caused by settlement, lateral movement, undermining, washout and other hazards created by earthwork operations.

1.06 REFERENCES

- A. ARKANSAS HIGHWAY AND TRANSPORTATION DEPARTMENT (AHTD).
 - 1. Standard specifications for highway construction latest edition.

PART 2 - PRODUCTS:

2.01 SOIL MATERIALS:

- A. SUB-BASE MATERIAL: Naturally or artificially graded mixture of natural or crushed gravel, crushed stone, crushed slag, natural or crushed sand, as acceptable to the Architect. Class 7 crushed stone conforming to grading requirements of the standard specifications for highway construction of the Arkansas State Highway Department table 303-I.
- B. 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.
- C. BACKFILL AND FILL MATERIALS: Satisfactory soil materials free of clay, rock or gravel larger than 2" in any dimension, debris, waste, frozen materials, vegetable and other deleterious matter, except fill in total depths of 12" or greater may contain rock or gravel of maximum 6" dimension.
- D. TOPSOIL: Reusable excavation or imported friable loam: free of roots, grass, excessive amounts of weed, large stones, and foreign matter.
- E. SUB-BASE FOR POROUS PAVEMENT: Refer to Section 02795 for base construction requirements for base below porous pavement.

PART 3 – EXECUTION:

3.01 EXCAVATION:

- A. CLASSIFICATION: Remove and dispose of any material encountered to obtain required sub-grade 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 sub-grade 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 pints, sumps, suction and discharge lines, and other dewatering system component 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 excavations limits for each structure. Do not use trench excavations as temporary drainage ditches.

- D. MATERIAL STORAGE: Stockpile excavated material 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, following recommendations in soils report. Extend the excavation a sufficient distance to permit placing and removal of concrete form work, installation of services, other work and for inspection. Remove any material beneath structures not capable of supporting 7000 PSF. 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. Where rock is encountered, excavation to elevations and dimensions shown. Footing may be placed directly on solid rock.
- F. EXCAVATION FOR PAVEMENTS: Cut surface under pavements to comply with cross-sections, elevations and grades as indicated.
- G. EXCAVATION FOR TRENCHES: Dig trenches to the uniform width required for the particular item to be installed, sufficiently wide to provide ample working room, and the depth indicated or required. Carry the depth of trenches for piping to establish the indicated flow lines and invert elevation. Beyond the building perimeter, keep bottoms of trenchers sufficiently below finished grade to avoid freeze-ups. Where rock is encountered, carry the excavation 6" below the required elevation and backfill with a 6" layer of crushed stone or gravel prior to installing pipe. Grade bottoms of trenches as indicated, notching under pipe bells to provide solid bearing for the entire body of the pipe. Backfill trenches with concrete where trench excavations pass within 18" of column or wall footings and which are carried below the bottom of such footings, or which pass under wall footings. Place backfill to the level of the bottom of adjacent footing. Do not backfill trenches until tests and inspections have been made and backfilling authorized by the Architect. Use care in backfilling to avoid damages or displacement of pipe systems. Comply it all applicable local, state and federal regulations regarding trenching.

- 3.02 BACKFILL AND FILL: Place and compact acceptable soil material in layers to required elevations. Backfill excavation 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 surface that are muddy, frozen or contain ice or frost. A geo-fabric such as Mirafi 500X or approved equal is required at base of the compacted select fill to reduce the potential for migration of the compacted fill into the underlying old fill and aid in bridging over the uncontrolled fill. Care shall be taken to prevent displacement of pipe during backfilling. Where double pipe are required, lifts between pipes shall be compacted using hand operated compaction equipment. backfill between and along the outside of pipes shall not vary in depth enough to allow displacement of alignment of pipes.

- 3.03 **COMPACTION:** Compact soils to not less than the following percentages of maximum Standard Proctor density for soils which exhibit a well-defined moisture density relationship determined in accordance with ASTM D 698 or ASTM D-1557.
- A. Compact each layer of backfill and fill soil materials and the top 12" of sub-grade for structures, slabs and pavements to 95% Modified Proctor maximum density (ASTM D-1557). Dynamic compaction is used on the building area, including an area extending at least 100 feet beyond, and mechanical, electrical equipment area. At lawns or unpaved areas, compact the top 6" to 90% Standard Proctor maximum density (ASTM D-698). Control moisture content of sub-grade 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.
 - B. In each compacted fill layer, make one field density test for every 2500 sq. ft. of paved and building slab area, but in no case less than 3 tests. Maximum distance between tests shall be 50'.
- 3.04 **PAVEMENT SUB-BASE COURSE:** Place specified Sub-base material in layers of indicated thickness, over sub-grade surface to support walks and pavement. Place single layer for course 6" thick or less and equal layers for courses more than 6" thick.
- 3.05 **GRADING:** Grade areas indicated with uniform levels or slopes between finish elevations, slope surface of areas to 0.10 ft above or below required sub-grade elevation, compacted as required. Allow for the required thickness of topsoil where required. Grade all areas to prevent ponding of water.
- 3.06 **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.
- 3.07 **DISPOSAL:** Remove trash, debris and waste material from site and dispose of in legal off-site dump site. Excess excavated material must be disposed of off-site, unless otherwise directed by the Owner.

END OF SECTION 02200

SECTION 02280
SOIL TREATMENT

PART 1 - GENERAL

- 1.01 SCOPE: Provide soil treatment for termite control, complete.
- 1.02 QUALITY ASSURANCE:
 - A. Complying with requirements of Arkansas State Plant Board, 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.
- 1.03 JOB CONDITIONS: Do not apply soil treatment solution until excavating, filling and grading operations are completed. Do not apply soil treatment when the soil is excessively wet not immediately after heavy rains.
- 1.04 MANUFACTURER'S DATA: In compliance with Section 01300, submit manufacturer's technical data, name of chemical, rates of application, and installation instructions. Transmit copy of installation instruction to Installer.
- 1.05 GUARANTEE: Furnish 5 year guarantee certifying that applied soil poisoning treatment will prevent infestation of subterranean termite and, that if subterranean termite activity is discovered during the guarantee period, the Contractor shall re-treat the soil and also repair or replace damage caused by termite infestation.

Part 2 - PRODUCTS

- 2.01 MATERIALS: Use chemicals approved by Arkansas State Plant Board or other governing authority.

Part 3 - EXECUTION

- 3.01 INSPECTION: Examine the areas and the conditions under which soil treatment for termites control is to be installed. Do not proceed until unsatisfactory conditions have been corrected.
- 3.02 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. Concentration and Application Rates: Comply with Arkansas State Plant Board or other governing authority specifications and recommendations for the following areas:

1. Under slab-on grade, sidewalks, platforms, ramps, and paving with in 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.
 - 4 . Along both sides of foundation walls, around perimeter of concrete footings, beams, and piers that extend below grade.
- 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 poisoning has been applied. Remove signs when areas are covered by other construction.
 - E. Re-apply soil treatment solution to areas disturbed by subsequent excavation or other construction activities following application.

END OF SECTION

SECTION 03310
CONCRETE WORK

PART 1 - GENERAL

- 1.01 SCOPE: Provide all cast in place concrete work. Provide all reinforcing steel, dowels, chairs, and accessories as specified for concrete work. Furnish reinforcing steel bars for masonry work and tile bars after they are in place.
- 1.02 RELATED DOCUMENTS:
- A. Excavation and Filling, including base course and cushion fill; Section 02200.
 - B. Soil treatment for termite control; Section 02280
- 1.03 QUALITY ASSURANCE:
- A. Reference Standards and Specifications: Comply with provisions of following codes specifications and standards, except as otherwise noted or specified, or as accepted or directed by the Architect during unusual climatic conditions.
 - 1. ACI 301 "Specifications for Structural Concrete for Buildings".
 - 2. ACI 318 "Building Code Requirements for Reinforced Concrete".
 - 3. Concrete Reinforcing Steel Institute, "Manual of Standard Practice".
 - B. Local Codes and Ordinances: Wherever provisions of the Uniform Building Code or the local current ordinances
Are more stringent than the above specifications and standards, the local codes and ordinances shall govern.
- 1.04 TESTS: Testing of concrete cylinders to determine compression strength of concrete delivered to the job site, all be performed by an independent testing laboratory approved by the Architect. Tests shall be paid by the Contractor. Testing requirements are specified in FIELD SAMPLING AND TESTING paragraph.
- 1.05 SUBMITTALS: Comply with Section 01300.
- A. Shop Drawings; Reinforcement: Submit to the Architect for review prior to installation, shop drawings reinforcing steel and construction joint schedule with details.
 - B. Prior to the placement of concrete, submit concrete mix designs proposed by the concrete supplier, class of concrete.
 - C. Weekly reports of all compression, slump, and air content tests from the testing laboratory.

PART 2 - PRODUCTS

- 2.01 MATERIALS:
- A. Form Materials:
 - 1. 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.
 - B. Steel Reinforcement:

1. Reinforcing Bars: ASTM A 615 (S1), deformed billet steel bars of grades as indicated on the structural drawings, free from loose rust, scale and other coatings that may reduce bond.
2. Mesh or Fabric Reinforcement: ASTM A 185, welded wire fabric, of sizes and types as indicated the drawings.
3. Accessories: Include all spacers, chairs, ties and other devices necessary for properly spacing and fastening reinforcement in place.
4. Tie Wires: Soft annealed iron wire not smaller than 18 gage.

D. Concrete Materials:

1. Portland Cement: ASTM C 150 , Type I.
2. Normal Weight Aggregates: ASTM C 33 and the following:
 - a. Fine Aggregate: Clean, sharp, natural or manufactured sand free from loam, clay, lumps or other deleterious substances.
 - b. Coarse Aggregate: Clean, uncoated, processed, locally available aggregate, containing clay, mud, loam or foreign matter. The maximum size of coarse aggregate shall be 1 1/2".
3. Mixing Water: Clean, free from oil, acid, salt, injurious amounts of impurities; potable.
4. Admixtures:
 - a. Air-Entraining Admixture: ASTM C 260. 5 1/2% + 1 1/2% for all concrete.
 - b. Other Admixtures: Do not use other admixtures unless accepted by the Architect.

E. Related Materials:

1. Moisture Barrier: Provide moisture barrier cover over prepared base material where indicated. Use only materials which are resistant to decay when tested in accordance with ASTM E 154, as follows:
 - a. Polyethylene sheet not less than 10 mils thick.
2. Non-Shrink Grout: CRD-C 588, Type D, non-metallic, factory pre-mixed grout: Master Builder "Masterflow 713", Euclid "Euco-NS", Sonneborn "SonogROUT", L & M "DuragROUT".
3. Bonding Compound: Polyvinyl acetate, rewettable type; W.R. Grace "Daraweld C", Sonneborne "Sonocrete". Larsen "Weldcrete", Euclid "Euroweld, L & M "Everbond".
4. Connectors: Provide all metal connectors required for placement in cast-in-place concrete, for the attachment of Structural and non-structural members.
5. Expansion Joint Filler: ASTM D 1751, non-extruding premoulded material, 1/2" thick, composed of fiberboard impregnated with asphalt, except use ASTM D 1752, Type II, resin-bound cork for walks and other exposed areas.
6. Curing Compound: ASTM C 309, minimum 30% solids content. Euclid "Super Floor Coat", Sonneborn Cure-N-Seal modified for 30%, W.R. Meadows "Sealtight" 1100.
7. Concrete Sealer: Sonneborn Son-No-Mar, Euclid Eucopoly I, Bonsal Concrete Sealer.

8. Contraction Joint: Tongue and groove keyway, preformed metal or wood form designed to provide 1 ½" keyway.

2.02 PROPORTIONING AND DESIGN OF MIXES:

- A. Strength: Concrete minimum ultimate strength at 28 days shall be:
Concrete footings and slabs 3000 psi

Mix Design:

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. Provide test results from the concrete supplier for proposed design mix, to establish the following:
 1. Gross weight and yield per cubic yard 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 day and 28 day test, and for each design mix.
 - D. Submit written reports to the Architect for design mix at least 15 calendar days prior to the start of work.
 - E. Use air-entrained admixture in strict compliance with manufacturer's directions.
 - F. Slump Limits: 4".

- 2.03 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.

PART 3 - EXECUTION

3.01 FORMS:

- A. Design, erect, support, brace and maintain formwork to support vertical and lateral loads that might be applied until such loads can be supported by concrete structure. Construct formwork so concrete members and structures are of correct size, shape, alignment, elevation and position.
- B. 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.
- C. Construct forms in accordance with ACI 347, to sizes, shapes, lines and dimensions shown, and to obtain accurate alignment, location, grades, level and plumb work in finished structures. Provide for openings, offsets, sinkages, keyways, recesses, moldings, rustifications, reglets, chamfers, blocking, screeds, bulk heads, anchorage's and inserts, and other required finishes. 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 concrete surfaces. Provide crush plates or wrecking plates where stripping may damage cast concrete surfaces. Provide top forms for inclined surfaces where slope is too steep to place concrete with bottom forms only. Kerf wood inserts for forming keyways, reglets, recesses, and the like, to prevent swelling and for easy removal.
- E. Form Ties: Factory-fabricated, adjustable-length, removable or snapoff metal form ties, designed to prevent form deflection, and to prevent spalling concrete surfaces upon removal.
- F. Provisions for Other Trades: Thoroughly clean forms and adjacent surfaces to receive concrete. Remove chips, wood, sawdust, dirt or other debris just before concrete is placed. Re - tighten forms and bracing after concrete placement is completed to eliminate mortar leaks and maintain proper alignment.
- G. 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. Re - tighten forms and bracing after concrete placement is completed to eliminate mortar leaks and maintain proper alignment.

3.02 PLACING REINFORCEMENT:

- A. Comply with Concrete Reinforcing Steel Institute's (CRSI) recommended practice for "Placing Reinforcing Bars", for details and methods of reinforcement placement and supports, and as herein specified.
- B. Clean reinforcement of loose rust and mill scale, earth, ice, and other materials which reduce or destroy bond with concrete.
- C. Accurately position, support and secure reinforcement against displacement by formwork, construction, or concrete placement operations. Locate and support reinforcing by metal chairs, runners, bolsters, spacers, and hangers, as required.
- D. In all cases, provide minimum concrete protection over bar reinforcement at least equal to the bar diameter or as follows:
 1. Where concrete is deposited against ground without forms, not less than 3".
 2. In forms, not less than 2" for bars more than 5/8" diameter and 1 1/2" for bars less than 5/8".
 3. All other locations, the thickness of concrete over reinforcement shall be at least 1 1/2" or 3/4" in slabs.
- 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. Avoid splicing at points of maximum stress. Minimum laps to be 32 bar diameters.
- G. Install mesh welded wire fabric reinforcement in as long length 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.
- H. Provide 2 #5 bars at each side of openings through walls and slabs, unless otherwise noted to extend 2'-0" past opening.
- I. Provide 2 #3 bars, 3" apart at the four sides at floor drains, plumbing risers, sleeves and inserts.

3.03 JOINTS AND INSERTS:

- A. Construction Joints: Locate and install construction joints as indicated or if not indicated, locate so as not to impair strength and appearance of the structure, as acceptable to Architect. Submit construction joint schedule and details to the Architect. Place construction joints perpendicular to the reinforcement, and continue all reinforcement across the joints, unless noted otherwise on the drawings. Provide joints bonded in compliance with manufacturer's instructions to form a continuous diaphragm.
- B. Expansion Joints: Provide expansion joints at locations indicated on the drawings, or as approved by the Architect. Do not permit reinforcement to extend continuously through any expansion joint.
- C. Inserts: Set and build into the work anchorage devices and other embedded items required for other work that is attached to, or supported by, cast-in-place concrete. Properly locate all 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 the items to be attached thereto.

3.04 CONCRETE PLACEMENT: Comply with ACI 304, and as herein specified.

- A. 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 the 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.
- B. Vapor Barrier: Apply directly over fill. Lay dry with 6" wide dry side laps and end laps. Lay film just before reinforcement is placed and concrete is poured, and protect against punctures. Repair punctures with adhesive applied extra sheet before proceeding.
- C. Notify the 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 chutting, 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 the 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 can not be placed continuously, provide construction joints as specified. Deposit concrete near of in its final location to avoid segregation due to rehandling or flowing, and displacement of the reinforcement.
- F. Cold Weather Placement: Comply with the requirements of ACI 306.
- G. Hot Weather Placement: Comply with the requirements of ACI 305.
- H. Compaction: Consolidate concrete during placing operations so that concrete is thoroughly worked around reinforcement and other embedded items and into corner.

3.05 FIELD SAMPLING AND TESTING:

- A. Laboratory Sampling and Testing: The following samples and tests will be performed by an independent testing laboratory approved by the Architect. Refer to paragraph 1.04 TESTS, for responsibility for payment of tests.

1. Field samples shall be made and cured in accordance with ASTM C31, for each concrete strength, at the rate of 3 test cylinders and one slump test for each 50 cubic yards of concrete from each day's pour. Test cylinders as follows: one at 7 days, two at 28 days, and reserve remaining for testing after a longer period as required by the Architect, if the 28 day test do not meet the required strength. In accordance with ASTM C 173 Volumetric Method or ASTM C231 Pressure Method, make air content check for each set of test cylinders. The taking of samples from small pours of 10 cubic yards or less may be omitted at the discretion of the Architect. Additionally, test slump every 25 cu. yards, recording location for weekly report. When early form removal is requested, field cure cylinders tested at 7 or less days to determine sufficient strength.
2. In all cases where the strength of any group of 3 cylinders or of any individual falls below the 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 the Architect from the location in the structure represented by the test specimen or specimens which failed. Specimens shall be secured, prepared and tested in accordance with ASTM C 42, within a period of 60 days after placing the concrete. Concrete shall be considered to meet the strength requirement of this specification if it meets the strength requirements of paragraph 4.8.4 of ACI 318. Should laboratory analysis indicate, however, 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. The cost of cutting specimens from the structure, patching the resulting holes, and making the laboratory analysis shall be borne by the Contractor. 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. If any of the specimens from the structure fail to meet the requirements outlined in paragraph 4.8.4 of ACI 318, the Architect shall have the right to require any and all defective concrete to be replaced, and all costs resulting therefrom shall be borne by the Contractor.

3.06 FINISH OF FORMED SURFACES: For formed concrete surfaces not exposed-to-view in the finish work or by other construction.

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 ¼" in height rubbed down or chipped off.

3.07 SLAB FINISHES:

- A. Exposed Plain Concrete Finish and Stained Concrete Finish: Finish the concrete by forcing aggregate away from the surface and screeding at the proper level. Float the surface and lightly trowel. When concrete has set sufficiently to ring under the trowel, give a second trowelling to produce a smooth, dense surface free from trowel marks and sweeps, air bubbles or other imperfections of troweling.
- B. Slabs to Receive Floor Covering: Finish as in A. above, trowel to remove trowel marks and to a smooth, even finish, except omit second troweling.
- C. Non-Slip Broom Finish: At exterior walks, steps and elsewhere as indicated. Finish as in A above except that after first troweling, give the surface a light broom finish, brushing at right angles to direction of travel or in pattern where so indicated on the drawings. No exposed tool marks will be permitted. Score as indicated on the drawings. No exposed tool marks will be permitted. Score as indicated or directed with a small radius edging tool, to a minimum ½" depth.
- D. Concrete Sealer: Apply two coats in accordance with manufacturer's instructions.

3.08 CONCRETE CURING AND PROTECTION: Protect freshly placed concrete from premature drying and excessive cold or hot temperatures. 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 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.

- A. Curing Methods: Perform curing of concrete by moist curing, by moisture-retaining cover curing, by curing and sealing compound, and by combinations thereof, as herein 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 end 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 to receive resilient flooring, or 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. Curing Formed Surfaces: Cure formed concrete 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.
- C. Curing Unformed Surfaces: Cure unformed surfaces, such as slabs and other flat surfaces by application of appropriate curing compound. Final cure concrete surfaces by moisture-retaining cover.

3.09 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 all exposed concrete floors, steps and walks from paint, plaster and other materials or equipment which may mar or damage these surfaces.

3.10 REMOVAL OF FORMS: Do not remove forms until the concrete has attained 67% of 28 day strength or a minimum of 4 days. Use a method of form removal which will not cause overstressing of the concrete.

3.11 MISCELLANEOUS ITEMS:

- A. Filling Holes: Fill in holes and opening 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.
- B. Equipment Pads: Provide 6" thick concrete pads under mechanical and electrical equipment. Use concrete specified for slabs, with a smooth integral finish. Set bolts, anchors, etc. , from templates or

setting diagrams furnished by the various trades. Provide #4 reinforcing bars at 12" o.c. each way in equipment pads.

- C. Drainage and Plumbing System Items: Unless otherwise noted on drawings, provide 3000 psi concrete for construction of manholes, catch basins, foot baths, valve boxes, etc., required for plumbing and drainage installation.
- 3.12 CONCRETE SURFACE REPAIRS: Repair and patch defective areas with cement mortar of the same type and class as the original concrete, immediately after removal of forms. Repair defects that adversely affect the durability of the concrete. If defects cannot be repaired remove and replace the concrete.
- 3.13 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 the entire cast-in-place concrete work.

SECTION 04200
UNIT MASONRY

PART I - GENERAL

1.01 SCOPE:

- A. Provide all concrete masonry work complete.

1.02 RELATED WORK SPECIFIED IN OTHER SECTIONS:

- A. Furnishing of anchors attached or anchored to masonry; Section 03310.
- B. Furnishing of materials for bar reinforcement; Section 03310.

1.03 QUALITY ASSURANCE:

- A. Codes and Standards: Provide material and work complying with referenced codes, regulations and standards.
- B. Construction Tolerances:
 - 1. Variation from Plumb: For vertical lines and surfaces of columns walls and arise do not exceed 1/4" in 10' or 3/8" in a story height not to exceed 20', nor 1/2" in 40' or more. For external corners, expansion joints, control joints and other conspicuous lines, do not exceed 1/4" in any story of 20' maximum, nor 1/2" in 40' or more.
 - 2. Variation form Level: For lines of exposed lintels, sills, parapets, horizontal grooves and other conspicuous lines, do not exceed 1/4" in any bay or 20' maximum, nor 3/4" in 40' or more.
 - 3. Variation of Linear Building Line: For position shown in plan and related portion of columns, walls and partitions, do not exceed 1/2" in any bay or 20' maxim, nor 3/4" in 40' or more.
 - 4. Variation in Cross-Sectional Dimensions: For columns and thickness of walls, from dimensions shown, do not exceed minus 1/4" nor plus 1/2" .

1.04 SUBMITTALS: Comply with Section 01300.

- A. Certification: Submit certification that each type of unit complies with specified requirements. Submit design mix of all grouts and mortals.
- B. Samples: Submit samples of each color and texture of masonry including CMU and face brick.

1.05 JOB CONDITIONS:

- A. Protect masonry materials during storage and construction from wetting by rain, snow or ground water, and from soilage or intermixture with earth or other materials. Do not

use metal reinforcing or ties having loose rust or other coatings, including ice, which will reduce or destroy bond. Do not lay masonry units which are wet or frozen.

- B. During erection, cover top of wall with heavy waterproof sheeting at end of each day's work. Cover partially completed structures when work is not in progress. Extend cover a minimum of 24 inches down both sides and hold cover securely in place.
- C. Do not apply uniform floor or roof loading for at least 12 hours after building masonry walls or columns. Do not apply concentrated loads for at least 3 days after building masonry walls or columns.
- D. Prevent grout or mortar from staining the face of masonry to be left exposed or painted. Immediately remove grout or mortar in contact with masonry. Protect sills, ledges and projections from droppings of mortar.
- E. Do not lay masonry when the temperature of outside air is below 40 degrees F, unless means are provided to heat and maintain the temperature of the masonry materials and protect the completed work from freezing. Protection shall consist of heating and maintaining the temperature of the masonry materials to at least 40 degrees F, and maintaining an air temperature above 40 degrees F on both sides of the masonry for at least 48 hours.

PART 2 - PRODUCTS

2.01 CONCRETE MASONRY UNITS: Provide units meeting the following requirements.

- A. Provide lightweight units, using aggregate complying with ASTM C331, producing dry net unit weight of not more than 105 lbs. per cu. ft.
- B. Hollow Load - Bearing Units: ASTM C90, Grade N, Type I, sizes as indicated.
- C. Face Finishes:
 - 1. Standard light weight units.
- D. Curing: Cure units in a moisture - controlled atmosphere or in an autoclave at normal pressure and temperature to comply with ASTM C90 Type I requirements.

2.05 MASONRY ACCESSORIES: Hohmann and Barnard, Dur-O-Wal ,AA Wire Products and National or approved equal.

- A. Continuous Masonry Wire Reinforcing:
 - 1. Provide welded wire units prefabricated in straight lengths of not less than 10' with matching corner and tee units. Fabricated from cold-drawn steel wire complying with ASTM A82, with deformed continuous side rods and plain cross rods, and a unit width of 1 -1/2" to 2" less than thickness of wall or partition. Provide manufacturer's standard mill galvanized finish.
 - 2. Use truss type fabricated with single pair of 9 gage side rods, and 9 gage continuous diagonal cross rods spaced not more than 16" o.c.

B. Wall Ties and Anchors:

1. At Concrete Foundations: 1" wide x 1" deep x 3/4" throat, 24 gage mill galvanized dovetail anchor slot, and dovetail triangle with 1/4" wire tie and 12 gage mill galvanized dovetail.
2. At Metal Framing" Hohmann and Bernard DW-10X (except DW-10 at interior walls), mill galvanized, 12 gage, with vee tie, mill galvanized, 1/4" diameter. Attach anchors to metal framing with #10 self-tapping corrosion-resistant screws.
3. At Steel: 9" long x 3/4" wide, 12gage, flat continuous adjustable weld-on anchor, mill galvanized, and 3/16" gage square nosed beam tie, mill galvanized.
4. At Intersecting Walls: 1/2" x 1/2" mesh, 16 gage hot-dipped galvanized wire mesh tie.

2.06 MORTAR AND GROUT MIXTURES:

A. Mortar Mix: ASTM C270, Type S.

B. Grout Mix: ASTM C476.

C. Measure and batch materials either by volume or weight, such that required proportions can be accurately controlled and maintained. Measurements of sand exclusively by shovel will not be permitted. Mix mortars with the maximum amount of water consistent with workability to provide maximum tensile bond strength within the capacity of mortar. Mix ingredients for a minimum of 5 minutes in mechanical mixer. Do not use mortar or grout which has begun to dry, or if more than 2-1/2 hours has elapsed since initial mixing. Retemper mortar during 2 - 1/2 hour period as required to restore workability. Do not add air-entraining agents or other admixtures to mortar or grout materials.

2.07 CONCEALED THRU - WALL FLASHING: Provide Nervastral HD, 20 mil thick elastic sheet or equal.

2.08 CONTROL JOINT MATERIAL: Specified and furnished in Section 7900, installed under this section.

2.09 WATER REPELLENT COATINGS: All exposed exterior masonry work to have water repelling sealer applied. See appropriate section in this project manual Damproofing.

2.10 WEEPHOLES: 3/8" diameter cotton sash cord or fibrous glass rope, length to produce 2" exposure on exterior and 12" in cavity; medium density polyethylene tubing 3/8" x 4" long may also be used.

PART 3 - EXECUTION

3.01 INSPECTION: Examine the areas and conditions under which masonry is to be installed. Do not proceed with the work until unsatisfactory conditions have been corrected.

3.02 PREPARATION: CMU - Do not wet concrete masonry units.

3.03 INSTALLATION:

- A. Thickness: Build single wythe walls to the actual thickness of the masonry units, using units of nominal thickness indicated.
- B. Build chases and recesses as indicated or required for the work of other trades. Provide not less than 8" of masonry between chases or recess and jamb openings, and between adjacent chases and recesses.
- C. Leave opening for equipment to be installed before completion of masonry work. After installation of equipment, complete masonry work to match work immediately adjacent to the opening.
- D. Cut masonry units using motor - driven saws to provide clean, sharp, unchipped edges. Cut units as required to fit adjoining work neatly. Use full - size units without cutting wherever possible.

3.04 LAYING MASONRY WALLS:

- A. Lay walls plumb and true to comply with specified tolerances, with courses level, accurately spaced and coordinated with other work.
- B. Weepholes: Open head joints. Weepholes to be located at 48" o.c. maximum.
- C. Lay concrete masonry units with full mortar coverage on horizontal and vertical face shells. Bed webs in mortar in starting course on footings and foundation walls and in all courses of piers, columns and pilasters, and where adjacent to cells or cavities to be reinforced or to be filled with grout. Lay CMU in running bond with vertical joint in each course centered on units above and below. Provide weepholes in exterior walls immediately above ledges and flashing spaced 2' o.c., unless otherwise indicated.
- D. Do not tooth corners.
- E. Build - in items specified under this and other sections of this specification. Fill in solidly with masonry around built - in items. Fill space between hollow metal frames and masonry solidly with mortar.
- F. Locate vertical bar reinforcement of the size and in location indicated. Solidly fill all cells containing reinforcement with grout in one lift not exceeding 8 feet. When grouting is stopped for one hour or more, form horizontal construction joints by stopping placement of grouting 1 - 1/2" below top of uppermost units.
- G. Joints: Lay walls with 3/8" joints. Use as dry a mortar mix as practical and compress points as much as possible to produce a dense tight joint.
 - 1. Concealed Joints: Strike flush
 - 2. Exposed CMU Joints: Typical joints in standard block to be tooled concrete. Joints in center scored block to have raked joint to match appearance of scoring in CMU. Joints in brick work to be tooled concave joint.
- H. Control Joints: Provide 3/8" wide (to match typed joint size) joints in CMU walls for movement as shown on the drawings or if not shown at 20' o.c.

3.05 HORIZONTAL JOINT REINFORCING:

- A. Reinforce walls with continuous horizontal reinforcing. Fully embed longitudinal side rods in mortar for their entire length. Lap reinforcement a minimum of 6" at end of units. Do not bridge control joints with reinforcing. Provide continuity at corners and wall intersections by use of prefabricated "L" and "T" sections. Cut and bend reinforcing as directed by the manufacturer for special conditions. Space reinforcing 16" o.c. vertically, unless otherwise indicated.
- B. Reinforce masonry openings greater than 12" wide with horizontal joint reinforcing placed in 2 horizontal joints approximately 8" apart, both immediately above the lintel and below the sill. Extend reinforcing a minimum of 2' beyond jambs of the opening bridging control joints where provided.

3.06 REINFORCED MASONRY LINTEL

- A. Lintel constructed of standard 8" wide CMU bond beams units.
 - 1. 0'-0" span to be 8" deep with #4 rebars.
 - 2. 4'-0" span to be 8" deep with #5 rebars.
 - 3. 6'-8" span to be 10" deep with #5 rebars top and bottom.

3.07 REPAIR, POINTING AND CLEANING:

- A. Remove and replace masonry units which are loose, chipped, broken, stained or otherwise damaged, or if units do not match adjoining units as intended. Provide new units to match adjoining units and install in fresh mortar or grout pointed to eliminate evidence of placement.
- B. Pointing: During the tooling of joints, enlarge any voids or holes, except weep holes, and completely fill with mortar. Point - up all joints at corners, openings and adjacent work to provide a neat, uniform appearance, properly prepared for application of caulking or sealant compounds.
- C. Clean exposed CMU masonry by dry brushing at end of each day's work and after final pointing to remove mortar spots and drippings.

END OF SECTION

SECTION 06100
ROUGH CARPENTRY

PART 1 - GENERAL

- 1.01 Scope: Provide all rough carpentry, and installation of items specified in other sections which are installed by the carpenters. In general, this work includes the following:
- A. Concealed framing studs and roof framing, etc.
 - B. All braces, stripping, cants, grounds, and nailers indicated or necessary to install all work, including architectural woodwork, toilet room accessories, medical equipment, fire extinguisher wall bracket, and to receive or back of other trades.
- 1.02 Quality Assurance:
- A. Grading Marks: Factory-mark each piece of lumber and plywood with type grade, mill and grading agency identification; and submit mil 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 and plywood with the Quality Control mark of the American Wood Preserver Bureau showing compliance with the appropriate.
- 1.03 Product Handling: Keep carpentry materials dry during delivery, storage and handling. Store lumber and plywood in stacks for air circulation within stacks. Protect bottom of stacks against contact with damp surface. 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

- 2.01 Softwood: Comply with the standards of WCLIB, "Standard Grading Rules for West Coast Lumber", for Douglas fir, and SPIB " Standard Grading, Rules for Southern Pine Lumber", for Southern Pine. For light framing and studs 2" - 4" wide, use SAS Douglas fir or Southern pine; construction grade or stud grade. For wood deck comply with the standards of WWPA "Standard Grading Rules". All blocking, etc. to be fire treated.
- 2.02 Rough Hardware: Nails, metal connectors, bolts, screws, and other fasteners (except as specified or noted otherwise); hot-dip galvanized steel.
- 2.02 Wood Preservative Treatments: Pressure treat with water-borne preservatives complying with AWPB -LP-2 all concealed wood (including lumber, grounds, nailers, blocking, backing, rough framing) in a closed cylinder using the vacuum-pressure process to a net dry retention of .35 lbs. per cu. ft. Dry to maximum moisture content of 19% after treatment. Brush two coats of same preservative used in treatment, to end cuts, holes, notches, splits, etc. Dry all lumber.

PART 3 - EXECUTION

- 3.01 Workmanship: Erect all work accurately to required lines, level, plumb, to true planes, and rigidly secured.
- 3.02 Rough Carpentry: provide wood 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.
- 3.03 Rough Hardware: Provide all rough hardware necessary or required for installation of the work specified. Use sufficient size and number of spikes, nails, screws, bolts, etc. to insure rigidity, security, and permanence.
- 3.04 Installation of Items Specified in Other Sections:
 - A. Specialties: Install all metal and specialty items (including those specified in Division 10) as indicated on the drawings and/or as recommended by the manufacturer's printed instruction, subject to modification on the job at the Architect's direction.
- 3.06 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 06100

SECTION 07310

SHINGLES

PART 1 GENERAL

- 1.01 RELATED DOCUMENTS: Drawings and general provisions of Contract, including General and Supplementary Conditions and Division 1 specification sections, apply to work of this section.
- 1.02 DESCRIPTION OF WORK:
- A. Extent of shingles is shown on drawings and is hereby defined to include units employed as weather protection.
 - B. Types of shingle applications specified in this section include the following:
 - 1. Fiberglass shingle, roofing complete.
- 1.03 QUALITY ASSURANCE:
- A. UL Listing: Provide labeled materials which have been tested and listed by UL for Class and Rating indicated for each shingle type required.
- 1.04 SUBMITTALS:
- A. Product Data: Submit technical product data, installation instruction, and recommendations from shingle manufacturer, including data that material comply with requirements.
 - B. Samples: Submit full range of samples for color and texture selection. After selection, submit 2 full-sized shingles for verification of each color/style/texture selected.
- 1.05 DELIVERY, STORAGE AND HANDLING:
- A. Deliver materials in manufacturer's unopened, labeled containers.
 - B. Store materials to avoid water damage, and store rolled goods on end. Comply with manufacturer's recommendations for job-site storage and protection.
- 1.06 JOB CONDITIONS:
- A. Substrate: Proceed with shingle work only after substrate construction and penetrating work have been completed.
 - B. Weather Condition: Proceed with shingle work only when weather conditions are in compliance with manufacturer's recommendations and when substrate is completely dry.
- 1.07 SPECIFIED PRODUCT WARRANTY:

- A. Provide shingle manufacturer's warranty on installed work, agreeing to pay for repair or replacement of defective shingles as necessary to eliminate leaks. Period of warranty is 30 years from date of substantial completion.
- B. Provide installers guarantee covering labor, materials, leaks and defects for a period of two years.

PART 2 PRODUCTS

2.01 MATERIALS:

- A. Fiberglass Shingles: Mineral surfaced, two-piece laminated fiberglass, bearing UL class A external fire exposure label and UL 997 70 mph Wind Resistance label, weighing not less than 240 lbs per square, equal to Certainteed "Landmark Woodscape 30 AR" shingle. Color as selected by Architect.
- B. Approved Manufacturers: Certainteed, Owens-Coring, Tamko and GAF
- C. Asphalt Saturated Roofing Felt: No. 15, unperforated organic felt, complying with ASTM D 226, 36" wide, approximate weight 18lbs/ sq.
- D. Asphalt Plastic Cement: Fibrated asphalt cement complying with ASTM D 2822, designed for trowel application.
- E. Hip and Ridge Shingles: Manufacturer's standard factory pre-cut units to match shingles, or job fabricated units cut from actual shingles used.
- F. Nails: Aluminum or hot-dip galvanized 11 or 12 sharp pointed convention roofing nails with barbed shanks, minimum 3/8" diameter head and of sufficient length to penetrate through plywood sheathing.
- G. Staples: Minimum 16-gauge zinc-coated steel roofing staples with minimum crown width 15/16" and of sufficient length to penetrate through plywood deck.
- H. Metal Drip Edge: Minimum .024" mill finish aluminum sheet, brake-formed to provide 3" roof deck flange, and 1 1/2" fascia flange with 3/8" drip at lower edge. Furnish in 8' or 10' lengths.

2.02 ROOF ACCESSORIES:

- A. Nails: Aluminum or hot-dip galvanized 11 or 12 gage sharp pointed conventional roofing nails with barbed shanks, minimum 3/8" diameter head, and of sufficient length to penetrate minimum 3/4" into solid decking or to penetrate through plywood sheathing.
- B. Metal Drip Edge: Minimum 24 gauge pre-finished aluminum sheet, brake-formed to provide 3" roof deck flange, and 1-1/2" fascia flange with 3/8" drip at lower edges. Furnish in 8' or 10' lengths.

PART 3 EXECUTION

- 3.01 INSPECTION: Installer of shingles must examine substrate and conditions under which shingling work is to be performed and must notify Contractor in writing of unsatisfactory conditions. Do not proceed with shingling work until unsatisfactory conditions have been corrected in manner acceptable to installer.
- 3.02 PREPARATION OF SUBSTRATE:
- A. Clean substrate of any projection and substrates detrimental to shingling work. Cover knotholes or other minor voids in substrate with sheet metal flashing secured with roofing nails.
 - B. Coordinate installation of shingles with flashing and other adjoining work to ensure proper sequencing. Do not install shingle roofing until all vent stacks and other penetrations through roofing have been installed and are securely fastened against movement.
- 3.03 INSTALLATION:
- A. General: Comply with instructions and recommendations of shingle manufacturer. Except to extent more stringent requirements are indicated.
 - B. Asphalt Shingles:
 - 1. Underlayment: Apply one layer felt horizontally over entire surface, lapping succeeding courses 2" minimum and fastening with sufficient nails to hold in place until shingle application.
 - C. Shingles: All shingles shall be installed in accordance with the Manufacturers complete application instruction. To insure proper, random color distribution shuffle shingles as recommended by manufacturer. All shingles shall be from same batch number. Nail shingles in manufacturer's recommend pattern, with standard weather exposure and number of nails per shingle. Use horizontal and vertical chalk lines to ensure straight coursing. Comply with installation details and recommendations shingle manufacturer and NRCA Steep Roofing Manual.
 - D. Flashing and Edge Protection: Install metal flashing, vent flashing and edge protection as shown and in compliance with details and recommendations of the NRCA Steep Roofing Manual.

END OF SECTION 07310

SECTION 09900
PAINTING

PART 1 - GENERAL

1.01 Scope:

- A. Provide painting and finishing of all interior and exterior items and surfaces throughout the project, except as otherwise indicated. Provide field painting of hangers, exposed steel and iron work, of primed metal surfaces and exposed-to-view prefinished metal surfaces of items required to match adjacent surfaces, and equipment installed under mechanical and electrical work. Provide touch-up of damaged pre-finished items as required to match original finish. Provide painted identification of piping as required by application codes.
- B. Do not paint acoustical ceilings, anodized aluminum, toilet partitions (except as noted), laminated plastic, pre-finished items except as noted above, or surfaces to receive wall covering, or other decorative coating.

1.02 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: Before any work is done, submit samples of finishes available in type and color on specified materials. Two samples of each color on proper material will be submitted after Architect's color selection.

1.03 Delivery and Storage: Deliver materials to the job site in original, new and unopened packages and containers bearing manufacturer's name and label

PART 2 - PRODUCTS

2.01 Acceptable Manufacturers: Provide all paints, enamels, stains, varnishes, admixtures and coatings of first line quality as manufactured by Sherwin Williams, Pratt and Lambert, Glidden, Benjamin Moore, Pittsburgh, Devoe, or acceptable equal.

2.02 Materials: See paragraph 3.05, SCHEDULE OF PAINT TREATMENT for materials. All finish coats shall contain midewcides. Grind in the factory all exterior colors and interior deep tone colors. Shop mixing is not permitted. Colors as selected by the Architect, and subject to modification on the job at the Architect's discretion.

PART 3 - EXECUTION

3.01 Inspection: Examine the areas and conditions under which painting work is to be performed. Do not proceed with the work or it will be construed as acceptance of the surfaces within any particular areas.

3.02 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. Cemetitious and Masonry Materials: Prepare cemetitious and masonry surfaces of brick, concrete block and cement plaster to be painted by removing all chalk, dust, dirt, grease, oils and roughening as required to remove glaze. Determine alkalinity and moisture content of surfaces to be painted by performing appropriate tests. If surfaces are found to be sufficiently alkaline to cause blistering and burning of the finish paint, correct this condition before application of paint.
- B. Wood: Clean wood surfaces to be painted of all dirt, oil, or other foreign substances with scraper, 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.
- 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.
- E. Galvanized Surfaces: Clean free of oil and surface contaminates with an acceptable non-petroleum based solvent.

3.03 Application:

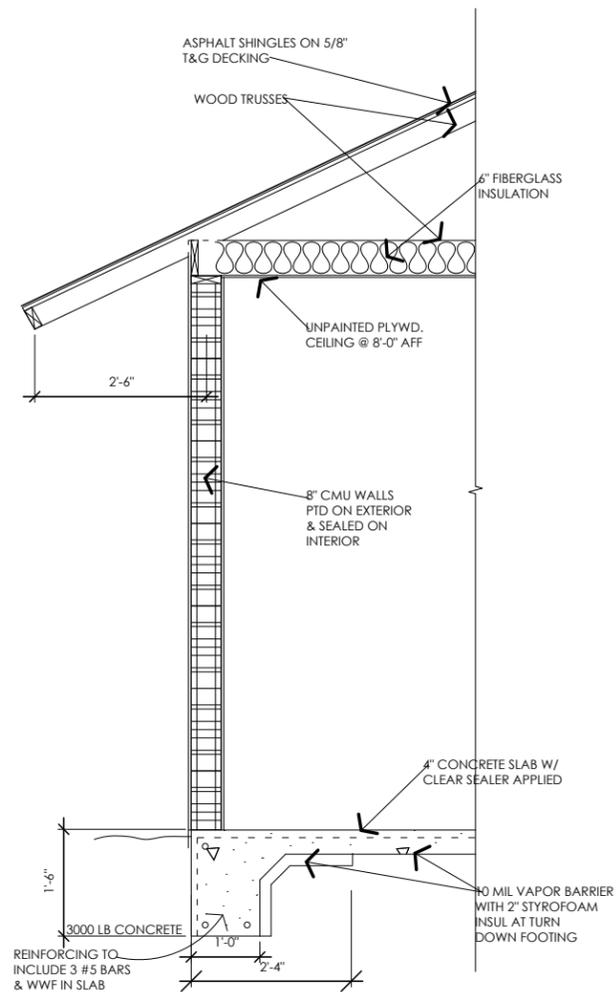
- A. Apply paint to brush, roller, spray, or other acceptable practice in accordance with the manufacturer's directions. use brushes best suited for the type of material being applied. Use rollers of carpet, velvet back, or high pile sheeps wool as recommended by the manufacturer for material and texture 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 completed dried. sand between each enamel or varnish coat application with fine sand paper, or but 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.
- 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.

3.04 Clean-Up Thoroughly clean all spots, smears, spills, etc., remove from the site all discarded paint materials, rubbish cans and rags at the end of each work day.

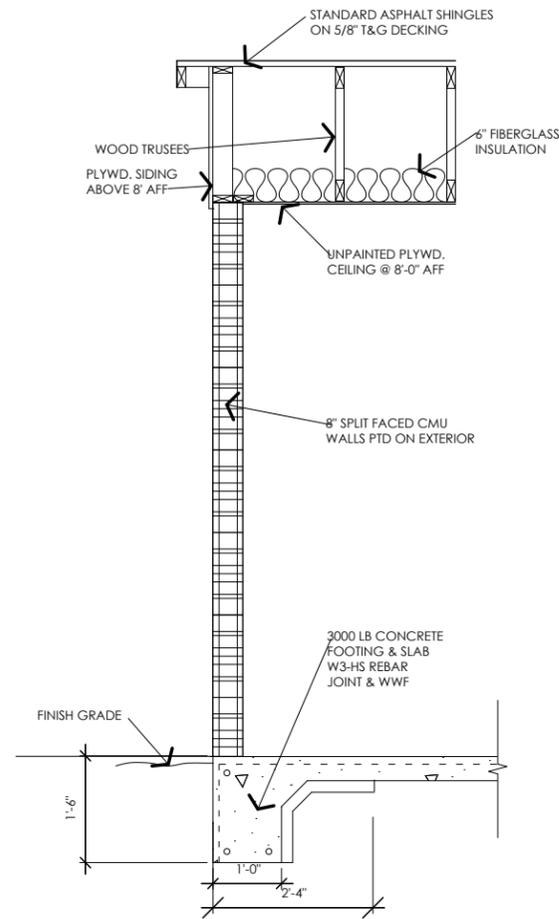
3.05 Schedule of Paint Treatments:

TREATMENT NO.	LOCATION	COATS	MATERIALS
1	Ext. & Int. Ferrous		Shop Priming specified under the respective metal section 1st Coat: Rustprimer 2nd/3rd Alkyd semi-gloss paint.
2	Ext. & Int. Galvanized Metal	2	Shop priming is under the respective metal section. Pretreatment: Chemical wash. 1st Coat: Galvanized iron primer. 2nd Coat: Ext. Alkyd semi-gloss paint.
3	Other metal surfaces	2	Clean and prime abraded spots as, specified in metal sections
4	Ext. plywood & wood (ptd)	3	1st Coat: Wall and wood primer. 2nd/3rd Coats: Semi-Gloss alkyd enamel.
5	Clear Concrete/CMU Sealer	2	1st/2nd Coats: Concrete and Masonry Sealer by Thoro

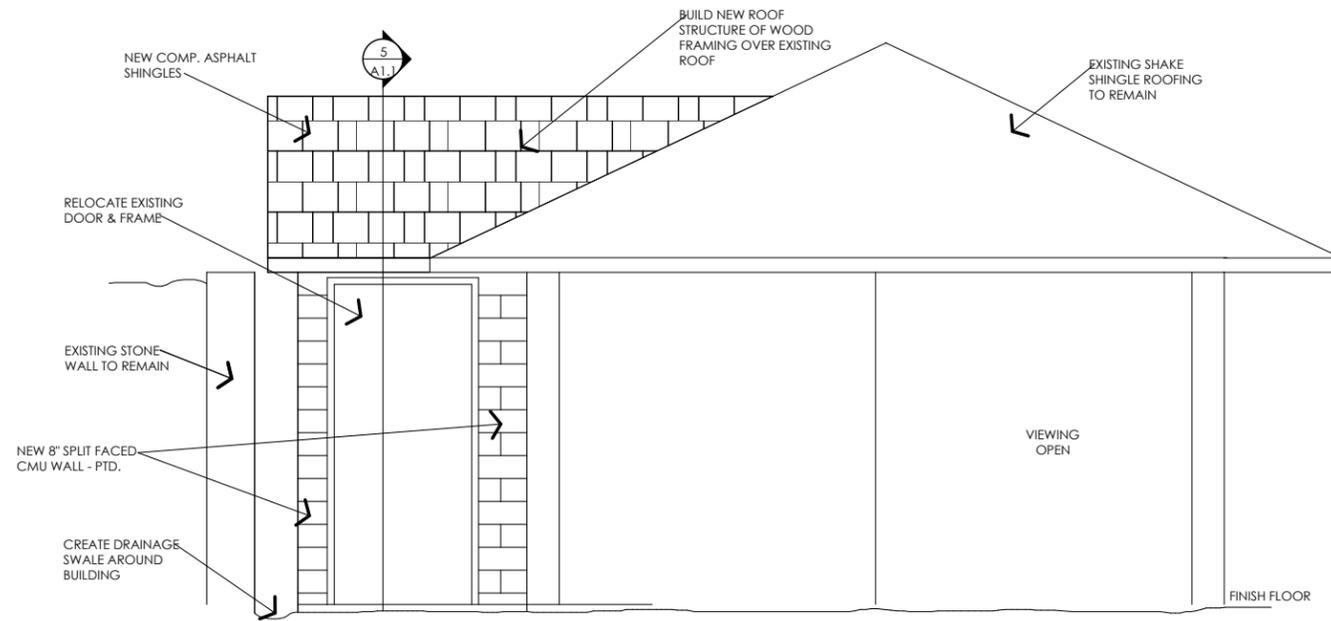
END OF SECTION 09900



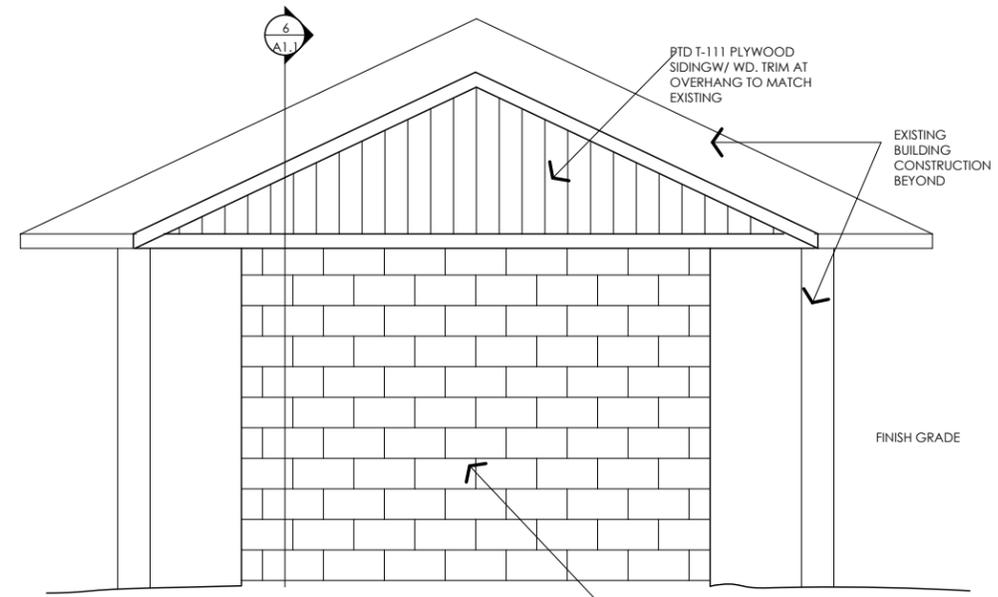
1 SECTION AT SIDE
SCALE: 3/8" = 1'-0"



2 SECTION AT BACK
SCALE: 3/8" = 1'-0"



3 SIDE ELEVATION
SCALE: 1/4" = 1'-0"



4 BACK ELEVATION
SCALE: 1/4" = 1'-0"

REV | DATE | DESCRIPTION

LITTLE ROCK ZOO
RETICULATED PYTHON EXHIBIT
LITTLE ROCK, ARKANSAS

H+W

Heiple+Wiedower
Architects Planners

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Project No:
HW13-630F

Date:
12/8/14

Sheet Title:
**SECTIONS &
ELEVATIONS**

Sheet No:

A1.2