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CITY OF TUSCALOOSA, ALABAMA
PUBLIC WORKS CONTRACT DOCUMENTS

WALTER MADDOX, MAYOR

CITY COUNCIL OF TUSCALOOSA

Council Members:

**Phyllis Odom
Harrison Taylor
Cynthia Almond
Matthew Calderone
Kip Tyner
Edwin Pugh
Sonya McKinstry**

Glenda Webb, City Attorney

PROJECT: Disaster Recovery – Streets Reconstruction Project

PROJECT NUMBER: A16-0216

FOR: Office of Resilience and Innovation

(2016)

TU.14.040 - 10

**DISASTER RECOVERY STREETS RECONSTRUCTION
CITY OF TUSCALOOSA**

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CITY OF TUSCALOOSA CONTRACT REQUIREMENTS**

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V. - CITY OF TUSCALOOSA SANITARY SEWER STANDARD SPECIFICATIONS

BURK-KLEINPETER, INC.

ENGINEERS-ARCHITECTS-PLANNERS-ENVIRONMENTAL SCIENTISTS
600 LURLEEN WALLACE BLVD., SUITE 180, TUSCALOOSA, AL 35401

LETTER OF TRANSMITTAL

BKI Job No. TU.14.040

Date 5/23/2016

Job Title Streets Reconstruction

To City of Tuscaloosa

Re: Construction Contracts

Attn. Ms. Melinda Causey

From Bruce Higginbotham

Sending attached under separate cover via

Description	copies	date	no.	description
	<u>4</u>			<u>Construction Contracts</u>

- | | | |
|--|--|--|
| <input type="checkbox"/> as requested | <input type="checkbox"/> approved as submitted | <input type="checkbox"/> copies submitted for distribution |
| <input checked="" type="checkbox"/> for your use | <input type="checkbox"/> approved as noted | <input type="checkbox"/> copies resubmitted for approval |
| <input type="checkbox"/> for approval | <input type="checkbox"/> returned for corrections | <input type="checkbox"/> corrected prints returned |
| <input checked="" type="checkbox"/> for review | <input type="checkbox"/> returned after loaned to us | <input type="checkbox"/> for bids due _____ |
| <input type="checkbox"/> other | | |

Remarks Melinda,
REV Construction has already executed. I did not fill out the date yet because I assumed
it would need to match when the Mayor executes.
Please let me know if this is incorrect or if you need anything else.
Thanks.

Signature 

CC: File

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STATE OF ALABAMA)
TUSCALOOSA COUNTY)
CITY OF TUSCALOOSA)

CITY OF TUSCALOOSA PUBLIC WORKS CONTRACT DOCUMENTS

SECTION ONE
ADVERTISEMENT AND NOTICE FOR BIDS
(2016)

Sealed bids will be received by the City of Tuscaloosa, Alabama, a Municipal Corporation, in the Council Chamber in the City Hall, 2201 University Boulevard, on the 7th day of April, 2016, until 10:00, a.m., o'clock, local time, and then publicly opened and read for the furnishing of all labor and material (where required) and equipment for performing a public works project according to the plans, details, specifications and Contract Documents.

Award of the contract will be made within forty-five (45) calendar days from the date of the bid opening.

1. The Project:

A. The Project shall be known as Disaster Recovery – Streets Reconstruction Project (A16-02016) and the general character of said public works project shall consist of the following:

Reconstruction of approximately 23 streets located throughout the Disaster Recovery Area. This work will include reconstruction of the streets, themselves, replacement of gravity sanitary sewer lines, modification of drainage structures, traffic control and erosion control.

B. The approximate quantities of said Project are as follows: Application of 15,000 tons of bituminous concrete wearing surface, 91,000 cubic yards of roadway planning and 8000 linear feet of gravity sanitary sewer, including related manhole replacements and lateral replacements.

C. Special instructions are as follows: A MANDATORY Pre-Bid Conference IS required for this Project. The Pre-Bid Conference is scheduled for Thursday, March 31, 2016 at 10:00 AM in the Narashino Room, Tuscaloosa City Hall, 2201 University Blvd., Tuscaloosa, AL 35401. Attendance is mandatory for all bidders in order to submit a bid for this project.

D. The City will furnish the following: N/A

E. Time of Construction: From the date stated in the Notice to Proceed, the Project time of construction is 240 consecutive calendar days.

2. Plans and Specifications:

Plans and specifications and all related Contract Documents are open for public inspection at the office of Burk-Kleinpeter, Inc., located at Tuscaloosa, Alabama, and plans, specifications and other elements of the contract documents may be obtained from the office of the Engineer/Architect Burk-Kleinpeter, Inc., designated as the office of the awarding authority for this purpose, located at 600 Lurleen Wallace Blvd., Suite 180, Tuscaloosa, Alabama. The contact person for the project is Craig Williams. They can be reached at 1-205-759-3221.

- A. Plans, specifications and Contract Documents may be obtained at the above location upon the deposit of \$ 100.00, which amount does not exceed twice the cost of printing, reproduction, handling and distribution of each set of such documents. Deposits by prime Contractor bidders are refundable in full upon return of all documents in reusable condition within ten (10) days of bid opening. Additional sets of bid documents for prime Contractor bidders, subcontractors, vendors or dealers may be obtained upon payment of the same deposit. Such deposits will be refunded, less the cost of printing, reproduction, handling and distribution, if all the documents are returned in reusable condition within ten (10) days of bid opening.
- B. All eligible refunds of deposits for plans and specifications will be made by the City within twenty (20) days of bid opening.

3. Qualification of Bidders:

- A. All bidders must be responsible, meeting the criteria and requirements set forth in the Instructions to Bidders and bid proposal.
- B. Prequalification of Bidders IS _____; IS NOT X required.
If prequalification of bidders is indicated to be required by the preceding sentence, then written prequalification information is available for review at the same office where plans, specifications and Contract Documents are available.
- C. The attention of all bidders is called to the provisions of State law governing "general Contractors," as set forth in Ala. Code §34-8-1, et seq. (1975), and rules and regulations promulgated pursuant thereto.
- D. If a construction manager is being utilized and this contract is one of a multiple of trade contracts, then the bidder shall be fully licensed for the trade, as determined by applicable law.
- E. The City may not enter into a contract with a non-resident corporation or entity which is not qualified under State law to do business in the State of Alabama.
- F. All bidders shall possess all other licenses and/or permits required by applicable law, rule or regulation for the performance of the work.
- G. All bidders must submit with their proposal, Contractor's license number and a copy of the license. State law, Ala. Code §34-8-8(b), requires all bids to be rejected which do not contain the General Contractor's current license number.
- H. The City reserves the right to reject all bids and/or reject and rebid the Project should it determine the same is in the best interest of the City.

4. Construction Manager:

_____ If the preceding blank is marked with an affirmative indication, it means that this contract involves the use of a construction manager and this contract is one of several multiple trade and/or multiple prime contracts for work on the Project. Bidders attention is called to the supplemental conditions attached to the General Conditions of the Contract Documents regarding this topic.

5. Bid Bonds: Each bidder must submit with its bid a cashier's check drawn on an Alabama bank or a fully executed bid bond on the form that is contained in the Contract Documents executed by a surety company duly authorized and qualified to make bond in the State of Alabama. All bonds, sureties and/or cashier checks will be made payable to the City for an amount not less than 5 percent of the City's or its engineers or architects estimated cost of the Project or of the total bid in the proposal, but in no event more than \$10,000.00.

6. Sales and Use Tax Savings: Alabama Department of Revenue Rule 810-6-3.69.02(2010) exempts certain payment of state, county, and municipal sales and use taxes by the contractor or subcontractor on tangible personal property to be incorporated into the realty pursuant to a contract with a municipal corporation such as the City of Tuscaloosa. All tax exempt purchases shall be in accordance with the laws of this state and the Alabama Department

of Revenue. It is the sole responsibility of the successful contractor to make the necessary inquiries and determinations as to what materials or items of tangible personal property to be incorporated into the project qualify as tax exempt in the opinion of the Alabama Department of Revenue. Unless otherwise noted, the project will be bid and administered in compliance with the State of Alabama Act 2013-205, Certificate of Exemption from Sales and Use Tax for Governmental Entities, regarding sales and use taxes. Sales and use taxes shall not be included in the bid. The Contractor shall be responsible for obtaining a certificate of exemption from the Alabama Department of Revenue for purchases of materials and other tangible property made part of the project. Any subcontractors purchasing materials or other tangible personal property as part of the project shall also be responsible for obtaining a certificate of exemption. The estimate sales and use tax saving must be accounted for on the bid proposal. Failure to provide the estimated sales and use tax savings may render the bid as non-responsive. Other than determining responsiveness of the bid, sales and use tax accounting shall not affect the bid pricing nor shall be considered in the determination of the lowest responsible and responsive bidder.

7. Pre-Bid Conference: A **MANDATORY** Pre-Bid Conference IS required for this Project. The Pre-Bid Conference is scheduled for Thursday, March 31, 2016 at 10:00 AM in the Narashino Room, Tuscaloosa City Hall, 2201 University Blvd., Tuscaloosa, AL 35401. Attendance is mandatory for all bidders in order to submit a bid for this project.

NOTE: All bidders are advised to carefully read the Instructions to Bidders contained in the Contract Documents, which provisions and requirements are adopted herein by reference.

CITY OF TUSCALOOSA, ALABAMA,
A MUNICIPAL CORPORATION
Walter Maddox, Mayor

[END ADVERTISEMENT FOR BID—OFFICE OF THE CITY ATTORNEY]

CITY OF TUSCALOOSA PUBLIC WORKS CONTRACT DOCUMENTS
SECTION TWO
INSTRUCTION TO BIDDERS
(2016)

NOTE: THIS DOCUMENT CONTAINS IMPORTANT BIDDING AND CONTRACTING INFORMATION. ALL POTENTIAL BIDDERS SHOULD READ IT THOROUGHLY

1. **Intention:** The Advertisement for Bids, Instruction to Bidders, Contract Agreement, any modifications or supplemental conditions to the Contract Agreement, Bid Proposal, and the Plans and Specifications are interrelated and apply to the complete work to which they relate.

2. **Definitions:** Where the following words, or the pronouns used in their stead, occur herein, they shall have the following meaning:

"Awarding Authority" shall mean the City of Tuscaloosa, Alabama.

"Bidder" shall mean any person, firm or corporation, that is responsible, submitting a responsive bid for the Project contemplated by the contract documents, who meets the requirements set forth in the contract documents, maintains a permanent place of business, has adequate forces and equipment to perform the work on the Project properly and within the time limit that is established, has sufficient experience in the type work provided for in the contract documents and has adequate financial status and resources to meet its obligations contingent to the work.

"City" or "Owner" shall mean the City of Tuscaloosa, Alabama, as the awarding authority or its authorized and legal representatives.

"Construction Manager" shall mean that person or entity employed by the City to provide Construction Manager services on the work or Project, who shall be the City's representative on the Project.

"Contractor" shall mean initially the successful or probable low bidder and then the party of the first part to the construction agreement or the legally authorized representatives of such party, including a trade contractor.

"Engineer/Architect" shall mean an Engineer or Architect responsible for design and related services on the Project, and if no Construction Manager is employed, then the Engineer is the representative of the City of Tuscaloosa, Alabama, on the Project. References to the "Engineer" shall mean the Construction Manager, if the City has employed such services, to the extent such services are applicable to construction management activity as set forth in the agreement between the City and the Construction Manager, and the context herein indicates that it would relate to services traditionally and customarily performed by a Construction Manager; otherwise, "Engineer" shall refer to the Engineer or Architect.

"Force Account Work" work paid for by reimbursing for the actual cost for labor, materials and equipment usage incurred in the performance of the work, as directed, including a percentage for overhead and profit where appropriate.

"Gender": a word importing one gender shall if appropriate extend to and be applied to the other gender. The masculine shall include the feminine and vice versa, unless the context clearly indicates otherwise.

"Inspector" shall mean a representative of the Engineer/Architect, Construction Manager or the City, as the case may be.

"Non-Resident Contractor" shall mean a contractor which is neither (a) organized and existing under the laws of the State of Alabama nor (b) maintains its principal place of business in the State of Alabama. A non-resident contractor which has maintained a permanent branch office within the State of Alabama for at least

five (5) continuous years shall not thereafter be deemed to be a non-resident contractor so long as the contractor continues to maintain a branch office within Alabama.

"Project" shall mean the Public Work to which these Contract Documents relate, including the labor, materials and all work to be done by Contractor that is the subject of the bid, plans, specifications and contract documents.

"Public Property" Real property which the awarding authority owns or has contractual right to own or purchase, including easements, rights-of-way, or otherwise.

"Public Work(s)" shall mean a Project consisting of the construction, repair, renovation, or maintenance of public buildings, structures, sewers, water works, roads, bridges, docks, underpasses and viaducts, as well as any other improvement to be constructed, repaired or renovated or maintained on public property to be paid, in whole or in part, with public funds or with financing to be retired with public funds in the form of lease payments or otherwise.

"Responsible Bidder" shall mean a bidder who, among other qualities determined necessary for performance, is competent, experienced and financially able to perform the contract.

"Responsive Bidder" shall mean a bidder who submits a bid that complies with the terms and conditions of the invitation for bids, including plans, drawings, specifications and other provisions of the contract documents.

"Retainage" shall mean that money belonging to the Contractor which has been retained by the awarding authority conditioned upon final completion and acceptance of all work in connection with the Project.

"Singular/Plural" the singular shall include the plural and vice versa, unless the context clearly indicates otherwise.

"Trade Contracts" "Trade contracts" or "multiple prime contracts" are multiple but separate contracts with the City on the same Project that represent significant construction activities performed concurrently with and closely coordinated with construction activities performed on the Project under other trade contracts.

"Unbalanced Bid" Unbalanced bids may be considered non-responsive and may be subject to rejection. An unbalanced bid includes but is not limited to one which results in a substantial advance payment to the contractor.

3. Work to be Performed: The City contemplates the construction of a public works project as generally described in the Advertisement for Bid and as more particularly described, shown and depicted on the plans, specifications, drawings and in the contract documents.

4. Bidding, Generally:

- A. All bids must be made upon the bid proposal forms contained in the contract documents, shall state the amount bid for each item as shown therein and all blanks shall be properly filled in and bid proposal executed as required.
- B. Any bidder may withdraw his or its bid, either personally or by telegraphic or written request (not by facsimile), at any time prior to the scheduled opening time for receipt of bids. Except as provided in Ala. Code §39-2-11(b)(c)(d), no bid may be withdrawn after opening of bids prior to the time of returning bid bonds as provided for herein.
- C. Any unauthorized conditions, limitations or provisos attached to the bid proposal, except as otherwise provided herein, will render a bid proposal informal and may cause its rejection. Unbalanced bids may be subject to rejection. Bids without the General Contractor's license number and a copy of the license will be rejected.

- D. All bids will be opened in public at the time and date specified in the Notice of Advertisement for bids, unless otherwise altered by addendum. All bidders are invited to be present at the opening of bids. No bids will be received after the time established for the opening of bids.
- E. All bids are to be enclosed in a sealed envelope addressed to the City of Tuscaloosa, P. O. Box 2089, Tuscaloosa, Alabama and/or hand delivered to the City Clerk, 2201 University Boulevard, City Hall, Tuscaloosa, Alabama. All bids are to be marked to indicate clearly the Project to which it applies and include the following language: "Bid Enclosed" and "Attention City Clerk."

NOTE: Bidders current General Contractor's license number must be displayed on the bid and the sealed envelope.

5. Responsible, responsive bidders: The City reserves the right to reject any bid that is submitted by a bidder that is determined by the City to not be a responsible bidder or whose bid proposal is not responsive.

In determining whether a bidder or bid is responsible and/or responsive, the City reserves the right to also request and consider the following factors:

- A. Types or kinds of materials or items best suited to the City's needs for the Project.
- B. A current financial statement of the bidder and/ or bonding capability or limits.
- C. An accurate inventory of equipment to be used on the Project for a list of key personnel to be used on the Project and detailed histories of their experience.
- D. A list of similar work performed by any person, firm, or corporation with the same name as the name or any of the names in the bidder's proposal within the last five (5) years.
- E. A list of five (5) references familiar with the bidder's competence, experience, capabilities, skill and integrity.
- F. A statement of bidder pertaining to bankruptcies, judgments, liens or litigation within the last five (5) years. Such statement shall also apply to each company, officer and the key personnel on the Project.
- G. The General Contractor's State license number and class.
- H. Bidder's performance and prosecution of past projects for the City.
- I. An unbalanced bid.
- J. Other information supplied in the bid proposal.

The City may make such investigations as he deems necessary to determine the ability of the Bidder to perform the work, and the Bidder shall furnish to the City all such information and data for this purpose as the City may request. The City reserves the right to reject any Proposal if the evidence submitted by, or investigation of, such Bidder fails to satisfy the City that such Bidder is properly qualified to carry out the obligations of the Contract and complete the work contemplated therein.

6. Bid Bonds: Each bidder must submit with its bid, a cashiers check drawn on an Alabama bank, made payable to the City of Tuscaloosa or a fully executed bid bond on the form that is contained in the contract documents, executed by a surety company duly authorized and qualified to make bond in the State of Alabama. All bonds and/or cashiers check will be made payable to the City of Tuscaloosa for an amount not less than five (5) percent of the City's or its engineers or architects estimated cost of the Project or of the total bid in the proposal, but in no event more than \$10,000.00. The purpose of said bid bond is to insure that the successful bidder will enter into a written contract with the City for the Project on the form included in the contract documents and furnish a performance bond and payment bond executed by a surety company duly authorized and qualified to make such bond in the State of Alabama, in the amount required and provide evidence of insurance as required by the bid documents within time specified or if no time is specified, within thirty (30) days after the forms have been presented to the successful bidder for signature. Provided; however, if extenuating circumstances prevail, the City may grant an extension of time not exceeding five (5) days for the return of the contract bonds and evidence of insurance.

The price or cost of all items bid shall remain in effect for a period of fifty (50) days after Notice of Award.

7. Return of Bid Bonds: All bid bonds, except those of the three lowest bona fide bidders, will be returned immediately after bids have been checked, tabulated and the relation of the bids established. The bid bonds of the three lowest bidders may be retained and if so will be returned as soon as the contract bonds and the contract documents of the successful bidder have been approved and properly executed.

In the event it is necessary to defer a contract award for longer than fifteen (15) days, after opening of bids, then all bid bonds, except that of the potential successful bidders will be returned.

Award of the contract will be made within the time specified after the opening of bids. In the event no award is made within such time, all bids may be rejected and all bonds returned.

Provided; however, the potentially successful bidder may enter into a written agreement with the City for an extension of time for consideration of its bid, in which case, the bidder's bond shall remain in full force and effect or the City may permit said bidder to substitute a satisfactory surety for the cashier's check if submitted as a guaranty to the bid bond.

8. Forfeiture of Bid Bonds: Should the successful bidder or bidders to whom a contract is awarded fail to execute a contract(s) and furnish acceptable contract securities and evidence of insurance, as required, within thirty (30) days after the prescribed forms have been presented to him/her, the City may retain from the proposal guaranty, if it is a cashier's check or recovered from the principal or the sureties, if the guaranty is a bid bond, the difference between the amount of the contract as awarded, and the amount of the proposals of the new lowest bidder. If no other bids are received, the full amount of the proposal guaranty may be so retained and recovered as liquidated damages for such default. Any sum so retained or recovered shall be the property of the awarding authority.

9. Consideration of Bid Proposals:

- A. Generally: The contract will be awarded to the lowest responsible and responsive bidder, unless the City determines that all the bids are unreasonable or that it is not in the best interest of the City to accept any of the bids. Award of the contract will be made on the basis of the lowest actual bid amount for the contract, which is defined as the total of the bid and/or extended total amounts for unit price items, plus requested and accepted additive or deductive alternates, pursuant to the provisions hereof. The City reserves the right to reject all bids and/or reject and rebid the Project should it determine the same is in the best interest of the City.
- B. Minor irregularities as determined by the City or its representatives, will not cause a bid to be non-responsive and may be waived by the City.
- C. Bidder must possess all licenses and permits required by applicable law, rule or regulation for the performance of the work prior to bidding.
- D. Where the City elects to prequalify contractors prior to bidding, it shall be understood that such prequalification may be general in nature and shall not limit the City's right to revoke such prequalification pursuant to Ala. Code §39-2-4(d) (1975).
- E. Joint ventures shall not generally be considered acceptable bids without special waiver from the City, which must be requested in writing at least thirty (30) days prior to bid opening.
- F. Additive and/or Deductive Alternates: If the City has elected to request bids for additive and/or deductive alternates, then the following procedure shall be the basis for calculating such bids:
 - 1) Deductive Alternates: Any deductive alternate from the base bid shall constitute cumulative deductions from the base bid; and in determining the lowest bidder, if the City elects to consider any deductive alternates, the City will proceed to consider the bids upon the basis of the base bids of all qualified bidders minus the respective deduction stated for the first alternate. If the City determines that it wishes to proceed to consider additional deductive alternates, it may do

so sequentially and in like manner throughout the deductive alternates the City elects, so that the base bids of all qualified bidders shall be calculated minus the respective number of deductive alternates in sequence the City has elected to consider. The lowest responsible responsive bid will be the lowest actual base bid of a qualified bidder less the selected sequential deductive alternates.

- 2) Additive Alternates: To determine additive alternates, any additive alternate shall constitute cumulative additions to the base bid; and in determining the lowest bidder if the City elects to consider any additive alternates, the City will proceed to consider the bids upon the basis of the base bid of all bidders plus the respective addition stated for the first alternate. If the City determines that it wishes to proceed to consider additional additive alternates it may do so sequentially, and in like manner, throughout the additive alternates, the City elects, so that the base bids of all qualified bidders shall be calculated plus the respective number of additive alternates in sequence the City has elected to consider. The lowest responsible responsive bid will be the lowest actual base bid of a qualified bidder plus the selected sequential additive alternates. Once the City has determined the lowest responsible responsive bidder as set forth herein, then it may award the contract on the basis of accepting and/or rejecting any additive and/or deductive alternates of that bid as it determines is in the best interest of the City.
- G. No Bids or Only One Bid: In the event no bid proposals or only one bid proposal is received in response to the City's Advertisement for Bids at the time stated for the opening of bids, the City may elect at its discretion, any of the following options:
 - 1) Advertise for and seek other competitive bids.
 - 2) Direct that the work shall be done by force account under its direction and control.
 - 3) Negotiate for the work through the receipt of informal bids. Provided; however, where only one responsible and responsive bid has been received, any negotiation for the work shall be for a price lower than that bid.
- H. An unbalanced bid.

10. Materials and Work: All materials, which the engineering plans specify or are required, will be installed as they are shown on the drawings, plans and/or specs.

- A. Brand names, catalog numbers, weights, etc., are used to indicate levels of quality only and are not intended to restrict the bidding. If bidding on an item of another brand or manufacturer than that specified, bidder's proposal should be accompanied by brochures or other pertinent literature giving detailed specifications of the item(s) on which the proposal is being made. Bids or proposals received without sufficient literature to determine equal quality may not be considered. Final determination as to equal quality will be made by the City.
- B. Quantities: The quantities shown in the proposal shall be considered by the contractor as the quantities required to complete the work for the purpose of bidding. Should the actual quantities required in the construction of the work be greater or less than the quantities shown, an amount equal to the difference of quantities at the unit prices bid for the items will be added to or deducted from the contract total.
- C. Adjustment Items: During the course of work, the prices bid for adjustment items may be used by the City to increase or decrease the total cost for the work if the quantity of work exceeds or is less than the amount shown on plans.
- D. The attention of all bidders is called to the fact that all or a portion of this Project may be federally funded and if so, the special conditions of a federally funded contract including federal labor standard provisions, the minimum wage rates included in the contract documents, plans and specifications must be followed.
- E. Construction Crews: The Contractor will be required to furnish at least one separate construction crew during the work as set forth in the contract. Unless waived by the City, the Contractor shall perform on the sites and with his own organization and equipment, at least fifty percent of the total amount of the work to be performed under this Contract. The Contractor may only subcontract a maximum of fifty (50%) percent of the work without City consent. If, during the progress of the work hereunder, the Contractor

requests a reduction of such percentage, and the City representative determines that it would be to the City's advantage, the percentage of the labor required to be performed by the Contractor's own organization may be reduced; PROVIDED prior written approval of such reduction is obtained by the Contractor from the City.

NOTE: Bidders are advised to carefully review all other elements of the contract documents for more details concerning requirements for performing work on the Project.

- F. In the event the City elects to utilize a Purchasing Agent Appointment agreement in conjunction with this contract, the Contractor will be required to execute such an agreement and perform in accordance therewith.

11. Execution of Contract, Notice to Proceed: Award of the contract will be made within the time specified after the opening of bids.

The bidder to whom award is made shall enter into a written contract for the Project with the City on the forms provided in the contract documents, furnish the required performance and labor and material bonds with proper surety and furnish the evidence of insurance as required, all within thirty (30) days of presentation of the prescribed forms to the bidder. If extenuating circumstances prevail, the City may grant an extension of time not exceeding five (5) days for the return of the contract, required bonds and evidence of insurance.

Within twenty (20) days after presentation by the bidder to the City, the City shall review the bonds, surety and evidence of insurance to ascertain whether they meet the requirements of the contract documents, and if such requirements have been met the City shall complete the execution of the contract.

A notice to proceed order will be issued by the City or its representatives within fifteen (15) days after final execution of the contract by the City. The Contractor shall begin work on the date specified in the Notice to Proceed.

12. Labor, Material and Performance Bonds: Within thirty (30) days after the prescribed forms have been presented, the successful bidder shall execute a performance bond with good and sufficient surety from a company duly authorized and qualified to make such bond in the State of Alabama, a performance bond made payable to the City of Tuscaloosa, with a penalty equal to 100 percent of the amount of the contract price and in addition thereto, another bond with good and sufficient surety by a surety company duly authorized and qualified to make such bond in the State of Alabama, payable to the City of Tuscaloosa, in an amount equal to 100 percent of the contract price with an obligation that such contractor shall promptly make payments to all persons supplying it or them with labor, materials or supplies for or in prosecution of the Project provided for in such contract and for the payment of reasonable attorneys fees incurred by any successful claimants or plaintiffs in civil actions on said bond, pursuant to the provisions of Ala. Code §39-1-1 (1975).

13. Surety and Insurer Qualifications: All certificates of insurance and bonds (furnished in connection with the work to be performed under this contract) shall be countersigned by a licensed agent residing and engaged in doing business in the State of Alabama. The surety and insurer shall be licensed and authorized to do business in the State of Alabama. The surety companies on bonds shall be rated A- or better by A. M. BEST and listed on the United States Treasury Department 570 list.

14. Power-of-Attorney: The attorney-in-fact (resident agent) who executes the performance bond and/or payment bond on behalf of the surety must attach a notarized copy of his or her power-of-attorney as evidence of his authority to bind the surety of the date of execution of the bonds. Certification by a resident agent authorized to do business in Alabama is required.

15. Insurance: The successful contractor shall file with the City, at the time of delivery of the signed contract, satisfactory evidence of insurance, the requirements as set forth in the contract agreement. Satisfactory evidence of insurance shall include at a minimum, the insurers standard "Certificate of Insurance" (modified pursuant to insurance

requirements of the contract agreement) and the agents verification of insurance as required by Section 26. If the City deems that additional evidence or clarification, etc., of insurance is appropriate, the bidder shall promptly furnish the same to the City upon request.

16. Examination of Contract Documents and of the Site of the Project: Before submitting a bid proposal for the Project, each bidder shall carefully examine the Contract Documents, including but not limited to plans, drawings, specifications, contract, etc., visit the site, and satisfy itself as to the nature and location of the Project, and the general and local conditions, including weather, the general character of the site or building, the character and extent of existing work within or adjacent to the site, any other work being performed or proposed thereon at the time of submission of their bids. It shall obtain full knowledge as to transportation, disposal, handling, and storage of materials, availability of water, electric power, and all other facilities in the area which will have a bearing on the performance of the Project for which they submit their proposals. The submission of a proposal shall be prima facie evidence that the bidder has made such examination and visit and has judged for and satisfied himself as to conditions to be encountered regarding the character, difficulties, quality, and quantities of work to be performed and the material and equipment to be furnished, and as to the contract requirements and contingencies involved. It shall be the Bidder's obligation to verify for himself and to his complete satisfaction, all information concerning site and surface conditions.

17. Subsurface Reports: Prior to Bid opening, the City will make available to prospective Bidders, upon request, any information that it may have as to subsurface conditions and surface topography at the work site. Investigations of subsurface conditions were made for the purpose of study and design, and neither the City nor its consultants that performed such testing assume any responsibility whatsoever in respect to the sufficiency or accuracy of borings, or of the logs of test borings, or of other investigations that have been made, or of the interpretations made thereof, and there is no warranty or guarantee, either expressed or implied, that the conditions indicated by such investigations are representative of those existing throughout such area, or any part thereof, or that unforeseen developments may not occur.

Logs of test borings, geotechnical reports, or topographic maps showing a record of the data obtained by the investigations of surface and subsurface conditions that are made available shall not be considered a part of the Contract Documents, and are available only for the convenience of the Bidders. Such logs and reports represent only the opinion of the Engineer/Architect or Consultant as to the character of the materials encountered by him in his investigations of the test borings.

Information derived from inspection of logs of test borings, or pits, geotechnical reports, topographic maps, or from Drawings showing location of utilities and structures will not in any way relieve the Contractor from any risk, or from properly examining the site and making such additional investigations as he may elect, or from properly fulfilling all the terms of the Contract Documents.

The City shall not be responsible for any interpretations or conclusions drawn from any subsurface exploration reports or borings. Each bidder is to base his bid upon his determination of the subsurface conditions and of the types and quantities of material to be encountered or needed. Additional tests or other exploratory operations may be made at no cost to the City.

18. Interpretation of Plans and Specifications: If any bidder contemplating submitting a bid for the proposed contract is in doubt as to the true meaning of any part of plans, specifications, or other proposed contract documents, he may submit to the Engineer/Architect or Construction Manager, as the case may be, a written request for an interpretation thereof at least ten (10) days prior to bid opening. The bidder submitting the request will be responsible for its prompt delivery. Any interpretation of the proposed documents will be made only by written addendum duly issued and a copy of such addendum will be mailed or delivered to each person receiving a set of such documents. The City, Construction Manager or Engineer/Architect will not be responsible for any other explanations or interpretations of the proposed documents.

19. **General Contractor's Permit or License:** The attention of all bidders is called to the provisions of the State law governing general contractors as set forth in Ala. Code §34-8-1 et seq. (1975), particularly in regard to the need for and evidence of a State general contractor's license. The provisions of said statute are adopted herein by reference and form a part of the Contract with the selected bidder should this Project be awarded.

Bidders are reminded that they will be governed by said statutes insofar as they are applicable. To summarize the above quoted statutes, Ala. Code §34-8-1, et seq. (1975) provides that no one is entitled to bid and no contract may be awarded to anyone who does not possess a valid general contractor's permit or license, including specialty classifications for the work, as provided by the foregoing sections of the State Code, and rules and regulations promulgated pursuant thereto and that said bid may not be considered without evidence being produced that he is so qualified. Trade contractors must be duly licensed in accordance with applicable law. The City may not enter into a contract with a nonresident corporation that is not qualified under the State law to do business in Alabama.

Bidder MUST include with proposal contractor's current license number and a copy of the license. State law, Ala. Code §34-8-8(b) (1975) requires all bids to be rejected which do not contain general contractor's license number.

20. **U. S. Products Preference:** The successful bidder (contractor) shall comply with Ala. Code §39-3-1 (1975), shall agree to utilize in the execution of the Project, materials, supplies and products manufactured, mined, processed or otherwise produced in the United States or its territories, if the same are available at reasonable and competitive prices and not contrary to any sole source specifications. It is further stipulated that a breach of the foregoing provision of this agreement by the contractor in failing to utilize domestic products shall result in a downward adjustment in the contract price equal to any realized savings or benefit to the Contractor.

21. **Use of Domestic Steel:** The attention of all bidders and that of the successful bidder (contractor) is drawn to Ala. Code §39-3-4 (1975), requiring the use of steel produced within the United States for municipal construction projects when specifications in the construction contract require the use of steel and do not limit its supply to a sole source. This provision is subject to waiver if the procurement of domestic steel products becomes impractical as a result of national emergency, national strike or other causes. Violations of the use of domestic steel requirements shall result in a downward adjustment in the contract price to equal any savings or benefit to the Contractor.

22. **In State Bidder Preference:** Pursuant to Ala. Code §39-3-5 (1975), in the letting of public contracts in which municipal funds are utilized, except those contracts funded in whole or in part with funds received from a federal agency, preference shall be given to resident contractors, and a nonresident bidder domiciled in a state having laws granting preference to local contractors shall be awarded Alabama public contracts only on the same basis as the nonresident bidders' state awards contracts to Alabama contractors bidding under similar circumstances; and resident contractors in Alabama, as defined in Ala. Code §39-2-12 (1975), be they corporate, individuals or partnerships, are to be granted preference over non residents in awarding of contracts in the same manner and to the same extent as provided by the laws of the state of the domicile of the nonresident.

Nonresident bidders must accompany any written bid documents with a written opinion of an attorney-at-law licensed to practice law in such nonresident bidder's state of domicile, as to the preferences, if any or none, granted by the law of that state to its own business entities whose principal places of business are in that state in the letting of a public contract.

23. **Applicable Laws:** Each Bidder shall inform himself of, and the Bidder awarded a contract shall comply with, federal, state, and local laws, statutes, and ordinances relative to the execution of the work. This requirement includes, but is not limited to, applicable regulations concerning minimum wage rates, the use of domestic products, U.S. steel and resident labor, non-discrimination in the employment of labor, protection of public and employee safety and health, environmental protection, the protection of natural resources, fire protection, burning and non-burning requirements, permits, fees and similar subjects. Certain statutory requirements are summarized immediately hereinafter. The attention of all bidders is called to the fact that the work will be subject to compliance with all applicable City building

and technical codes and will be subject, in addition to all other inspections, to inspection by a representative of the City of Tuscaloosa Building Inspections Department.

24. SRF/DWSRF Special Requirements. If all or any portion of the Project to which this contract applies is funded in whole or in part by the proceeds of a loan or loans from the Alabama Department of Environmental Management (ADEM) through either a State Revolving Fund for Wastewater or Water (SRF or DWSRF, respectively), additional requirements for the Contractor exist (Requirements). These Requirements relate to Project objectives for utilization of Minority Business Enterprises/Women Business Enterprises (MBE/WBE). The Contractor must document efforts made to utilize MBE/WBE firms and submit to ADEM, with a copy to the City within ten (10) days after contract execution, evidence of the positive steps in accordance with the requirements to utilize small minority and women businesses in the procurement of subcontracts.

Other Requirements relate to Federal Labor Standards, Title VI of the Civil Rights Act of 1964, Equal Employment Opportunity, Affirmative Action Equal Opportunity Clause, Goals and Timetables, compliance with Occupational Safety and Health Act of 1970 and Section 107 of Contract Work Hours and Safety Standards Act (PL91-54) which are adopted herein by reference to the extent applicable.

For DWSRF and SRF funded projects, special requirements are also set forth in Supplemental General Conditions. If not attached to the contract documents, Contractors should contact the City representative and/or the City's consulting engineer for a copy of all special requirements and conditions.

25. Special Conditions for Federally Funded Contracts. If all or any portion of the Project to which this contract applies is funded in whole or in part by the proceeds of a grant from an agency of the United States Government, additional requirements for the Contractor exist. A summary of these requirements entitled, "Special Conditions for Federally funded Contracts," is attached hereto and made a part hereof. Bidder should contact the Engineer or City Representative to confirm the applicability of these requirements to the Project.

26. Agent's Verification of Insurance. This form or a letter equivalent from the Insurance Agent should be submitted with each Contractor's Bid, or in the alternative, Contractor may provide a copy of the insurance policy or policies reflecting the coverages required herein.

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

28. Compliance with Affordable Health Care Act. By signing this contract, the contracting parties affirm, for the duration of the agreement, that they will not violate federal compliance laws pertaining to the Affordable Health Care Act. Furthermore, a contracting party found to be in violation of this provision shall be deemed in breach of the agreement and shall be responsible for all damages resulting therefrom, to the extent allowed by Federal law.

29. Compliance with the City of Tuscaloosa Minority Enterprise / Disadvantage Business Enterprise (MBE/DBE/WBE) Policy for Public Works Projects Over \$50,000. The City of Tuscaloosa has voluntarily adopted a Minority / Disadvantaged Business Enterprise ("MBE/DBE/WBE") Program designed to encourage the participation and development of minority and disadvantaged business enterprises and to promote equal business opportunities to the fullest extent allowed by state and federal law.

It is the intent of the City to foster competition among contractors, suppliers, and vendors that will result in better quality and more economical services rendered to the City. Under this policy, the City of Tuscaloosa has established a goal of ten to twenty percent (10-20%) inclusion of minority and disadvantaged business enterprises for all services required

to deliver City projects. In no case shall the stated percentage be the determining factor in contract awards. Rather, contractors must demonstrate a good faith effort to attain the desired percentage goal.

The Policy as adopted is entitled THE CITY OF TUSCALOOSA MINORITY ENTERPRISE / DISADVANTAGED BUSINESS ENTERPRISE (MBE/DBE/WBE) POLICY FOR PUBLIC WORKS PROJECTS OVER \$50,000, and is attached hereto as "Exhibit A" (the "Policy"). Contractors are encouraged read the Policy in its entirety, and must follow the instructions contained therein. **The Policy requires submission of various forms at specified times, and failure to do so may result in rejection of bid due to non-responsiveness.** Contractors shall work in coordination with the City of Tuscaloosa's Office of Resilience and Innovation Department.

Office of Resilience and Innovation contact information is as follows:

Robin Edgeworth, Chief Resilience Officer

Telephone: (205) 248-5725

redgeworth@tuscaloosa.com.

Questions about Policy requirements should be directed to the City of Tuscaloosa Office of the City Attorney at 205-248-5140.

[END INSTRUCTION TO BIDDERS—OFFICE OF THE CITY ATTORNEY]

CITY OF TUSCALOOSA PUBLIC WORKS
SECTION THREE
PROPOSAL (BID)
(2016)

NOTE TO BIDDER: Use BLACK ink for completing this Proposal form.

To: CITY OF TUSCALOOSA
Address: 2201 UNIVERSITY BLVD
TUSCALOOSA, AL. 35401
Project Title: DISASTER RECOVERY - STREETS RECONSTRUCTION
Project No.: A 16-02016
Trade: The trade portion of the work for which this Proposal is submitted is:

(if applicable)
Trade Package No.: _____

BIDDER: The name of the Bidder submitting this Proposal is REV CONST. INC doing business
at 2201 11TH ST, TUSCALOOSA AL, 35401
Street City State Zip

which is the address to which all communications concerned with this Proposal and with the Contract shall be sent.

Licensed, Class U, Alabama General Contractor No.: 40131 (Attach Copy)

Alabama General Contractor Specialty MU

Alabama General Contractor License Major Categories:

(1) MUNICIPAL (2) UTILITY

Bidder's contact person for additional information on this Proposal:

Name: GRADY PUGH Telephone: 205-349-1860

ADDENDA: The Bidder hereby acknowledges that he has received Addenda No's. 1, 2,
3, 4 (Bidder shall Insert No. of each Addendum received) and agrees that all addenda issued are
hereby made part of the Contract Documents, and the Bidder further agrees that his Proposal(s) includes all impacts
resulting from said addenda.

LUMP SUM: The Bidder agrees to accept as full payment of the work proposed under this Project, as services
are rendered, as herein specified and as shown on the Contract Documents, upon the undersigned's own estimate of
quantities and costs, the following lump sum of: _____ Dollars
and _____ cents (\$ _____). (Amount written in words has precedence)

ALTERNATES: Attach additional sheets for additive or deductive alternates, if in contract documents.

UNIT PRICES: Where the Project is bid in unit prices then Bidder agrees to perform the work in the stated quantities of the materials at the unit prices so bid, the cumulative total of which constitutes the base bid set forth below, and to accept as final payment for the work performed under this Project as herein specified the extension of each such unit price for the quantities actually installed in accordance with the following or attached unit price schedule.

An unbalanced bid, as herein defined, may be considered non-responsive. A bid resulting in a substantial advance payment on an item that is for a single lump sum payment may be considered non responsive.

Prices for mobilization and demobilization combined shall not exceed 5% of the total base bid unless a reasonable explanation is provided in writing with the bid and accepted by the Owner. Lump sum payments and unit price bids for a single or lump sum payment may be spread over the course of the period of work until the line item is complete at owner's option.

The Bidder's unit price for materials listed is as including the payment of taxes (See Page 3) where applicable: (Attach additional sheets if required)

	<u>Material</u>	<u>Quantity</u>	<u>Unit Price</u>	<u>TOTAL</u>
1.	_____	_____	_____	_____
2.	_____	_____	_____	_____
3.	_____	_____	_____	_____
TOTAL BASE BID			\$	_____

SALES AND USE TAX SAVINGS ACCOUNTING:

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

	<u>ESTIMATED SALES AND USE TAX</u>
BASE BID: \$	\$ <u>56,000.00</u>
Additive Alternate (if applicable): \$	_____

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

AS BUILT DRAWINGS: The Bidder's Proposal contains \$ 0 for "as built drawings."

BIDDER'S DECLARATION AND UNDERSTANDING: The undersigned, hereinafter called the Bidder, declares that the only persons or parties interested in this Proposal are those named herein, that this Proposal is, in all respects, fair and without fraud, that it is made without collusion with any official of the City, and that the Proposal is made without any connection or collusion with any person submitting another Proposal on this Contract.

The Bidder further agrees that he has checked and verified the completeness of the Contract Documents and that he has exercised his own judgment regarding the interpretation of subsurface information utilizing all pertinent data in arriving at his conclusions. The Bidder shall be fully responsible for any damages or liability arising out of his or his subcontractors prebid investigations.



DISASTER RECOVERY STREETS RECONSTRUCTION FOR
THE CITY OF TUSCALOOSA



Item No.	Description	Quantity	Unit	Unit Price	TOTAL
1	REMOVING CONCRETE DRIVEWAY UNIT PRICE(ALDOT 600-A)	397	SQ YD	7.00	2,779.00
2	REMOVING PIPE (ALDOT 208D-000)	5135	LIN FT	4.00	20,540.00
3	8 INCH ABANDON EXISTING SANITARY SEWER (ALDOT 645F-510)	900	LIN FT	16.00	14,400.00
4	REMOVING CURB AND GUTTER (ALDOT 206D-003)	696	LIN FT	3.00	2,088.00
5	REMOVING VALLEY GUTTER (ALDOT 206D-005)	993	LIN FT	3.00	2,979.00
6	REMOVING INLETS (ALDOT 206E-001)	6	EA	325.00	1,950.00
7	REMOVING JUNCTION BOXES (ALDOT 206E-002)	1	EA	325.00	325.00
8	UNCLASSIFIED EXCAVATION (ALDOT 210A-000)	657	CU YD	12.00	7,884.00
9	STRUCTURE EXCAVATION (ALDOT 214A-000)	48	CU YD	20.00	960.00
10	FOUNDATION BACKFILL, COMMERCIAL (ALDOT 214B-001)	523	CU YD	32.00	16,736.00
11	CRUSHED AGGREGATE BASE COURSE, TYPE B, PLANT MIXED, 6" COMPACTED THICKNESS (ALDOT 301A-012)	6429	SQ YD	17.00	109,293.00
12	BITUMINOUS TREATMENT A (ALDOT 401A-000)	2761	SQ YD	1.05	2,899.05
13	TACK COAT (ALDOT 405A-000)	7893	GAL	3.00	23,679.00
14	PLANING EXISTING PAVEMENT (APPROXIMATELY 0.00" THRU 2.0" THICK) (ALDOT408A)	75337	SQ YD	1.60	120,539.20
15	SUPERPAVE BITUMINOUS CONCRETE WEARING SURFACE LAYER, 1/2" MAXIMUM AGGREGATE SIZE MIX, ESAL RANGE C/D (ALDOT 424A-360)	7332	TON	80.00	586,560.00
16	SUPERPAVE BITUMINOUS CONCRETE WEARING SURFACE LAYER, LEVELING, 1/2" MAXIMUM AGGREGATE SIZE MIX, ESAL RANGE C/D (ALDOT 424A-365)	3300	TON	80.00	264,000.00
17	SUPERPAVE BITUMINOUS CONCRETE UPPER BINDER LAYER, PATCHING, 1" MAXIMUM AGGREGATE SIZE MIX, ESAL RANGE C/D (ALDOT 424B-655) (For Roadway)	4737	TON	90.00	426,330.00
18	SUPERPAVE BITUMINOUS CONCRETE UPPER BINDER LAYER, PATCHING, 1" MAXIMUM AGGREGATE SIZE MIX, ESAL RANGE C/D (ALDOT 424B-655) (For Sanitary Sewer)	900	TON	105.00	94,500.00
19	AGGREGATE SURFACING (ALDOT #57) (ALDOT 430B-003)	1268	TON	35.00	44,380.00
20	AGGREGATE SURFACING (1" DOWN, CRUSHER RUN) (ALDOT 430B-043)	478	TON	35.00	16,730.00
21	15" ROADWAY PIPE (CLASS3 R.C.) (ALDOT 530A)	28	LIN FT	40.00	1,120.00
22	24" ROADWAY PIPE (CLASS 3 R.C.) (ALDOT 30A)	80	LIN FT	48.00	3,840.00
23	36.25" X 22.5" ARCH ROADWAY PIPE (CLASS 3 R.C.) (ALDOT 530A)	72	LIN FT	83.00	5,976.00
24	22" x 13.5" ROADWAY PIPE (CLASS 3 R.C.) (ALDOT 530A)	36	LIN FT	48.00	1,728.00
25	MOBILIZATION (ALDOT 600A-000)	1	LUMP SUM	109,000.00	109,000.00
26	LOOSE RIPRAP, CLASS 2 (ALDOT 610C-001)	200	TON	40.00	8,000.00
27	FILTER BLANKET, GEOTEXTILE (ALDOT 610D-003)	210	SQ YD	4.00	840.00
28	SLOPE PAVING (ALDOT 614A-000)	25	CU YD	400.00	10,000.00
29	4" SIDEWALK (ALDOT 618A-000)	15	SY	45.00	675.00
30	CONCRETE DRIVEWAY, 6" THICK (ALDOT 618B-002)	422	SQ YD	50.00	21,100.00
31	18" ROADWAY PIPE END TREATMENT, CLASS 1 (ALDOT 619A-002)	1	EA	750.00	750.00
32	24" ROADWAY PIPE END TREATMENT, CLASS 1 (ALDOT 619A-003)	4	EA	875.00	3,500.00
33	JUNCTION BOXES, TYPE SPECIAL (ALDOT 621A-013)	1	EA	3,200.00	3,200.00
34	JUNCTION BOXES, TYPE PARTIAL (ALDOT 621A-057)	2	EA	750.00	1,500.00
35	INLETS, TYPE "SPECIAL" (ALDOT 621C-030)	8	EA	3,900.00	31,200.00
36	INLETS, TYPE SPECIAL (PARTIAL) (ALDOT 621C-053)	8	EA	500.00	4,000.00
37	REMOVE EXISTING HEADWALL	1	EA	300.00	300.00
38	REMOVE INLET	2	EA	450.00	900.00

Item No.	Description	Quantity	Unit	Unit Price	TOTAL
39	DOUBLE BARREL (ARCH PIPE) END TREATMENT	1	EA	2,800.00	2,800.00
40	SINGLE BARREL (ARCH PIPE) END TREATMENT	1	EA	2,000.00	2,000.00
41	REMOVE SOLID JUNCTION BOX TOPS	4	EA	300.00	1,200.00
42	REMOVE INLET TOPS	7	EA	450.00	3,150.00
43	MANHOLE COVERS RESET (RISER RING METHOD) (ALDOT 622A-004)	23	EA	330.00	7,590.00
44	CONCRETE GUTTER (VALLEY) (ALDOT 623A-001)	1664	LIN FT	35.00	58,240.00
45	COMBINATION CURB & GUTTER, TYPE C (ALDOT 623C-000)	696	LIN FT	35.00	24,360.00
46	VALVE BOXES (ALDOT 641S)	29	EA	75.00	2,175.00
47	VALVE BOXES RISERS (ALDOT 641S)	29	EA	80.00	2,320.00
48	8" DIAMETER GRAVITY SEWER (SDR 26 PVC)(0'-6")	1602	LIN FT	50.00	80,100.00
49	8" DIAMETER GRAVITY SEWER (SDR 26 PVC)(6'-8")	1423	LIN FT	54.00	76,842.00
50	8" DIAMETER GRAVITY SEWER (SDR 26 PVC)(8'-10")	967	LIN FT	58.00	56,086.00
51	8" DIAMETER GRAVITY SEWER (SDR 26 PVC)(10'-12")	274	LIN FT	64.00	17,536.00
52	8" DIAMETER GRAVITY SEWER (SDR 26 PVC)(12'-14")	130	LIN FT	70.00	9,100.00
53	8" DIAMETER GRAVITY SEWER (SDR 26 PVC)(14'-16")	280	LIN FT	85.00	23,800.00
54	10" DIAMETER GRAVITY SEWER (SDR 26 PVC)(6'-8")	291	LIN FT	56.00	16,296.00
55	10" DIAMETER GRAVITY SEWER (SDR 26 PVC)(8'-10")	179	LIN FT	60.00	10,740.00
56	MANHOLE RINGS & COVERS	40	EA	500.00	20,000.00
57	4" SEWER LATERALS(SDR 26 PVC)	2730	LIN FT	25.00	68,250.00
58	#57 STONE BACKFILL	11320	TON	25.00	283,000.00
59	BYPASS PUMPING	9	LUMP SUM	1,700.00	15,300.00
60	8" X 4" SANITARY SEWER WYES (ALDOT 645E)	294	EA	150.00	44,100.00
61	10" X 4" SANITARY SEWER WYES	10	EA	220.00	2,200.00
62	4" DIAMETER MANHOLE (ALDOT 645H)	263	VERT FT	310.00	81,530.00
63	SANITARY SEWER CLEANOUT WITH REQUIRED 4"x 4" WYES	304	EA	175.00	53,200.00
64	TOPSOIL (ALDOT 650A-000)	546	CU YD	20.00	10,920.00
65	SEEDING (ALDOT 652A-100)	2	ACRE	1,400.00	2,800.00
66	SOLID SODDING (ALDOT 654A-000)	4483	SQ YD	8.00	35,864.00
67	MULCHING (ALDOT 656A-010)	4	ACRE	1,300.00	5,200.00
68	SILT FENCE (ALDOT 665J-002)	2676	LIN FT	3.50	9,366.00
69	WATTLE (ALDOT 665Q-002)	1281	LIN FT	4.50	5,764.50
70	SOLID WHITE, CLASS 2, TYPE A TRAFFIC STRIPE (ALDOT 701A-231)	0.265	MILE	3,800.00	1,007.00
71	SOLID YELLOW, CLASS 2, TYPE A TRAFFIC STRIPE (ALDOT 701A-235)	4.302	MILE	2,700.00	11,615.40
72	BROKEN WHITE, CLASS 2, TYPE A TRAFFIC STRIPE (ALDOT 701A-240)	1	MILE	2,100.00	2,100.00
73	TRAFFIC CONTROL MARKINGS, CLASS 2, TYPE A (ALDOT 703A-002)	3153	SQ FT	4.50	14,188.50
74	TRAFFIC CONTROL LEGENDS, CLASS 2, TYPE A (ALDOT 703B-002)	84	SQ FT	5.50	462.00
75	PAVEMENT MARKERS, CLASS A, TYPE 1-B (ALDOT 705A-001)	132	EA	4.50	594.00
76	PAVEMENT MARKERS, CLASS A, TYPE 2-C (ALDOT 705A-004)	67	EA	4.50	301.50
77	PAVEMENT MARKERS, CLASS A, TYPE 2-D (ALDOT 705A-005)	337	EA	4.50	1,516.50
78	CONSTRUCTION SIGNS (ALDOT 740B-000)	1882	SQ FT	9.00	16,938.00
79	CHANNELIZING DRUMS (ALDOT 740D-000)	315	EA	60.00	18,900.00
Item No.	Description	Quantity	Unit	Unit Price	TOTAL

80	CONES (36 INCHES HIGH) WITH BALLASTS (ALDOT 740E)	355	EA	25.00	8,875.00
81	BARRICADES, TYPE III (ALDOT 740F-002)	44	EA	300.00	13,200.00
82	WARNING LIGHTS, TYPE B (DETACHABLE HEAD) (ALDOT 740I-005)	22	EA	185.00	4,070.00
83	PILOT CAR (ALDOT 740O-000)	2	EA	6,800.00	13,600.00
84	PORTABLE SEQUENTIAL ARROW AND CHEVRON SIGN UNIT (ALDOT 741C-010)	2	EA	3,800.00	7,600.00
85	PORTABLE CHANGEABLE MESSAGE SIGN, TYPE 2 (ALDOT 742A-001)	2	EA	7,000.00	14,000.00
86	JUNCTION BOX TOP REPLACEMENT	1	EA	450.00	450.00
87	S-INLET TOP REPLACEMENT (DOUBLE WING)	1	EA	3,900.00	3,900.00
88	S-INLET TOP REPLACEMENT (SINGLE WING)	2	EA	3,600.00	7,200.00
89	2 INCH GATE VALVE WITH BOX	1	EA	450.00	450.00
90	2 INCH P.V.C. WATER MAIN LAID	1070	LIN FT	10.00	10,700.00
91	6 INCH X 6 INCH ANCHOR TEE	1	EA	350.00	350.00
92	FIRE HYDRANT	1	EA	3,500.00	3,500.00
93	FIRE HYDRANT REMOVAL	1	EA	450.00	450.00
94	6" DUCTILE IRON CAP W/ 2" TAP	1	EA	750.00	750.00
95	TIE TO EXISTING	2	EA	800.00	1,600.00
96	6 INCH X 6 INCH TAPPING VALVE AND SLEEVE	1	EA	2,800.00	2,800.00
97	REQUIRED DIRECT TAP TO EXISTING 6" WATER MAIN	6	EA	600.00	3,600.00
98	6 INCH X 2" TAPPING VALVE AND SLEEVE	2	EA	900.00	1,800.00
99	2 INCH CUT AND CAP	4	EA	400.00	1,600.00
100	2" SADDLE TAPS (FOR TIE TO 2" LINE)	8	EA	600.00	4,800.00
101	TRAFFICLOGIX SPEEDTABLE (OR APPROVED EQUAL) 13' x 17.5'	1	EA	7,500.00	7,500.00
102	TRAFFICLOGIX SPEEDTABLE (OR APPROVED EQUAL) 13' x 26.5'	1	EA	10,000.00	10,000.00

TOTAL BASE BID 3,189,427.65

The Bidder understands and agrees that if a Contract is awarded, the City may elect to award all schedules under one Contract, lump sum, separately, or in any combination that best serves the interests of the City.

The Bidder further declares that he has carefully examined the Contract documents for the construction of the Project and has checked and verified the completeness of the Contract Documents, that he has personally inspected the site, that he has satisfied himself as to the quantities involved, including materials and equipment, and conditions of work involved. Bidder further declares that he is fully aware of the fact that the description of the work, quantities of work and materials, as included herein, is brief and is intended only to indicate the general nature of the work and to identify the said quantities with the detailed requirements of the Contract Documents. Bidder also declares that this Proposal is made according to the provisions and under the terms of the Contract Documents, which Documents are hereby made a part of this Proposal.

The Bidder declares that he understands and agrees that the quantities shown in the Advertisement for Bids and in the Proposal are approximate only and are subject to either increase or decrease; and that should quantities be decreased, he also understands and agrees that payment will be made on actual quantities installed at the unit bid prices, and will make no claim for anticipated profits for any decreases in the quantities. Actual quantities will be determined upon completion of the work.

START OF CONSTRUCTION AND CONTRACT COMPLETION TIME: The Bidder further agrees to begin work on the date stated in the Notice to Proceed and to fully complete the work, in all respects, within the time specified in the contract documents for completion.

EXPERIENCE OF BIDDER: Unless advised by the awarding authority in the Advertisement for Bids that the same is not required, the Bidder submits the following list of at least three clients for whom projects involving construction of similar projects have been performed within the past 5 years.

1. SEE ATTACHMENTS

Name of Client		Telephone Number
Street		City
Facility	Size	Date
Name of Engineer/Architect /Engineering Firm		Telephone Number

2.

Name of Client		Telephone Number
Street		City
Facility	Size	Date
Name of Engineer/Architect /Engineering Firm		Telephone Number

3.

Name of Client		Telephone Number
Street		City
Facility	Size	Date
Name of Engineer/Architect/Engineering Firm		Telephone Number

PERFORMANCE OF WORK BY CONTRACTOR: The Bidder shall perform at least 50 percent of the work with his own forces (refer to the INSTRUCTIONS TO BIDDERS).

SUBCONTRACTORS: Unless the same information has been provided in the prequalification statement, the Bidder further certifies that if his bid is accepted, the following subcontracting firms or businesses will be awarded subcontracts for the following portions of the work:

Description of Work PAVING

ST. BUNN CONST. INC

Name

1904 UNIVERSITY BLVD TUSCALOOSA, AL 35401

Street City State Zip

Description of Work STIPING

WB BUILDERS

Name

P.O. Box 2507 Tuscaloosa AL 35403

Street City State Zip

Description of Work CONCRETE WORK

JAMES PAULING

Name

1409 BELMONT LAKE HELENA AL 35080

Street City State Zip

Description of Work _____

Name _____

Street _____

City _____

State _____

Zip _____

SURETY: If the Bidder is awarded a construction contract on this Proposal, the Surety who provides the Performance Bond and Payment Bond will be:

FITTS AGENCY whose address is

1806 6th ST.

Street

TUSCALOOSA

City

AL

State

35401

Zip

Single Job Bond Limit 8m

Aggregate Job Bond Limit 12m

If Sole Proprietor or Partnership:

IN WITNESS hereto the undersigned has set his (its) hand this _____ day of _____, 2016.

Signature of Bidder

Title

If Corporation:

IN WITNESS WHEREOF the undersigned corporation has caused this instrument to be executed and its seal affixed by its duly authorized officers, this 14th day of APRIL, 2016.

REY CONST. INC

Name of Corporation

By _____

GRADY RUBA PRESIDENT

Title

Attest _____

Jenni Rud
Secretary

(seal)

The Bidder declares that he understands and agrees that the quantities shown in the Advertisement for Bids and in the Proposal are approximate only and are subject to either increase or decrease; and that should quantities be decreased, he also understands and agrees that payment will be made on actual quantities installed at the unit bid prices, and will make no claim for anticipated profits for any decreases in the quantities. Actual quantities will be determined upon completion of the work.

Attached hereto is a (Bid Bond) or (Check) for the sum of 5% of Amount
BID NTR 10,000 according
to the conditions under "Instructions to Bidders" and provisions therein.

Dated this 14th day of April, 2016.

BY: [Signature]
President
Title

(NOTE) If the Bidder is a corporation, the Proposal shall be signed by an officer of the corporation; if a partnership it shall be signed by a partner. If signed by others, authority for signature shall be attached.

[END OF BID PROPOSAL—OFFICE OF THE CITY ATTORNEY]

STATE OF ALABAMA)
TUSCALOOSA COUNTY)

CITY OF TUSCALOOSA PUBLIC WORKS CONTRACT DOCUMENTS

SECTION FOUR
BID BOND TO THE CITY OF TUSCALOOSA, ALABAMA
(2016)

KNOW ALL MEN BY THESE PRESENTS, that we, the undersigned, _____
REV Construction, Inc. _____ as Principal; and _____
Travelers Casualty and Surety Company of America _____ as Surety, (NOTE: If cashier's check drawn on an
Alabama Bank utilized in lieu of corporate surety, attach check as required by bid documents) are hereby held and
firmly bound unto the City of Tuscaloosa, Alabama, a Municipal Corporation, as obligee, hereinafter called the City,
in the sum of Five Percent of Bid Amount not to Exceed Ten Thousand _____ Dollars
(\$ 5% NTE \$10,000) for the payment of which sum, well and truly to be made, the said Principal and
Surety hereby jointly and severally bind ourselves, our heirs, executors, administrators, successors, and assigns.

The condition of the above obligation is such that whereas the Principal has submitted to the City a certain
Bid (Proposal), attached hereto and made a part hereof, to enter into a contract in writing with the City, for the
following Project or portion thereof:

Project: Disaster Recovery-Streets Reconstruction Project

Location: Tuscaloosa

Architect or Engineer: Burk-Kleinpeter, Inc.

Project Number: A16-02016

NOW, THEREFORE,

(a) If said Bid shall be rejected, or in the alternate,

(b) If said Bid shall be awarded and the Principal shall execute and deliver a contract in the Form of
Agreement as included in the Contract Documents for the Project, and shall execute and deliver Performance Bond
and Payment Bond in the Forms as attached to the Contract Documents executed by a surety company authorized
and qualified to make such bonds in the State of Alabama and in the amounts as required by the Instructions to
Bidders and submit the insurance certifications as required by the bid document and fulfill all other qualifications and
requirements of the Contract Documents and bid specifications (all properly completed in accordance with said Bid),
and shall in all other respects perform the agreement created by the acceptance of said Bid within thirty (30) days
after the prescribed forms have been presented to Bidder for execution;

Then, this obligation shall be void, otherwise, the same shall remain in full force and effect; it being
expressly understood and agreed that the liability of the Surety for any and all default of the Principal hereunder shall
be the amount of this obligation as herein stated.

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

IN WITNESS WHEREOF, the above-bonded parties have executed this instrument under their several seals, this the 14th day of April, 2016 the name and corporate seal of each corporate party being hereto affixed and these presents duly signed by its undersigned representative, pursuant to authority of its governing body.

WITNESS:

Eddie Hernd

PRINCIPAL:

REV Construction, Inc. (SEAL)

By: [Signature]

Title: President

Address: 2201 11th Street, Suite B

Tuscaloosa, AL 35401

SURETY:

Travelers Casualty and Surety Company of America (SEAL)

One Tower Square

(Business Address)

Hartford, CT 06183-6014

ATTEST:

[Signature]

By: [Signature]

Title: Charles F. Horton, Jr.
Attorney in Fact

NOTE: Surety must be qualified and duly authorized to make bonds in the state. All Bonds and Sureties are subject to review and approval by the City Attorney. Valid current Power of Attorney for Corporate Surety must be attached.

NOTE: Bidder may submit a cashier's check drawn on an Alabama bank to the order of the City of Tuscaloosa equal to 5% of the amount bid, in lieu of a Corporate Surety, under the same terms.

[END DOCUMENT—OFFICE OF THE CITY ATTORNEY]



POWER OF ATTORNEY

Farmington Casualty Company
Fidelity and Guaranty Insurance Company
Fidelity and Guaranty Insurance Underwriters, Inc.
St. Paul Fire and Marine Insurance Company
St. Paul Guardian Insurance Company

St. Paul Mercury Insurance Company
Travelers Casualty and Surety Company
Travelers Casualty and Surety Company of America
United States Fidelity and Guaranty Company

Attorney-In Fact No. 230377

Certificate No. 006588854

KNOW ALL MEN BY THESE PRESENTS: That Farmington Casualty Company, St. Paul Fire and Marine Insurance Company, St. Paul Guardian Insurance Company, St. Paul Mercury Insurance Company, Travelers Casualty and Surety Company, Travelers Casualty and Surety Company of America, and United States Fidelity and Guaranty Company are corporations duly organized under the laws of the State of Connecticut, that Fidelity and Guaranty Insurance Company is a corporation duly organized under the laws of the State of Iowa, and that Fidelity and Guaranty Insurance Underwriters, Inc., is a corporation duly organized under the laws of the State of Wisconsin (herein collectively called the "Companies"), and that the Companies do hereby make, constitute and appoint

Timothy L. Donahue, T. Gary Fitts, J. David Fitts, Charles F. Horton Jr., R. Forrest Fitts, Cheryl Camak, Julie Tubbs, and Chris Davidson

of the City of Tuscaloosa, State of Alabama, their true and lawful Attorney(s)-in-Fact, each in their separate capacity if more than one is named above, to sign, execute, seal and acknowledge any and all bonds, recognizances, conditional undertakings and other writings obligatory in the nature thereof on behalf of the Companies in their business of guaranteeing the fidelity of persons, guaranteeing the performance of contracts and executing or guaranteeing bonds and undertakings required or permitted in any actions or proceedings allowed by law.

The authority granted hereunder to sign, execute, seal and acknowledge any individual bond, recognizance, conditional undertaking, and other writing obligatory in the nature thereof is limited to the sum of TEN MILLION (\$10,000,000.00) DOLLARS per bond.

IN WITNESS WHEREOF, the Companies have caused this instrument to be signed and their corporate seals to be hereto affixed, this 19th day of January, 2016.

Farmington Casualty Company
Fidelity and Guaranty Insurance Company
Fidelity and Guaranty Insurance Underwriters, Inc.
St. Paul Fire and Marine Insurance Company
St. Paul Guardian Insurance Company

St. Paul Mercury Insurance Company
Travelers Casualty and Surety Company
Travelers Casualty and Surety Company of America
United States Fidelity and Guaranty Company



State of Connecticut
City of Hartford ss.

By: [Signature]
Robert L. Raney, Senior Vice President

On this the 19th day of January, 2016, before me personally appeared Robert L. Raney, who acknowledged himself to be the Senior Vice President of Farmington Casualty Company, Fidelity and Guaranty Insurance Company, Fidelity and Guaranty Insurance Underwriters, Inc., St. Paul Fire and Marine Insurance Company, St. Paul Guardian Insurance Company, St. Paul Mercury Insurance Company, Travelers Casualty and Surety Company, Travelers Casualty and Surety Company of America, and United States Fidelity and Guaranty Company, and that he, as such, being authorized so to do, executed the foregoing instrument for the purposes therein contained by signing on behalf of the corporations by himself as a duly authorized officer.

In Witness Whereof, I hereunto set my hand and official seal. My Commission expires the 30th day of June, 2016.



[Signature]
Marie C. Tetreault, Notary Public

STATE OF ALABAMA

BID LIMIT: U

AMOUNT: UNLIMITED

LICENSE NO: 40131

TYPE: RENEWAL



State Licensing Board for General Contractors

THIS IS TO CERTIFY THAT

REV CONSTRUCTION INC

TUSCALOOSA, AL 35401

is hereby licensed a General Contractor in the State of Alabama and is authorized to perform the following type(s) of work:

MU: MUNICIPAL AND UTILITY

until May 31, 2016

when this Certificate expires.

Witness our hands and seal of the Board, dated Montgomery, Ala.,

1st day of May, 2015

111228

Charles A. Webb, Jr.

SECRETARY-TREASURER

C. Webb

CHAIRMAN

REV Construction
Resume of Work
Updated: July 15, 2015

2015 Works In Progress

Airport Industrial Park Utility Infrastructure

Description: Installation of gravity sewer, force main, & Lift Station.

Owner: County of Tuscaloosa

Contact: Jason Coker-McGiffert & Associates

Contract Amount: \$1,792,600.00

Contract Time: 120 days

Percentage Complete: 60%

Corinth Contract 1 Sewer System Investigation & Rehab

Description: Misc sewer rehab work throughout the city of Corinth MS

Owner: City of Corinth

Contact: Matthew Estes

Contract Amount: \$1,101,845

Contract Time: 325 days

Percentage Complete: 35%

Corinth Contract 2 Sewer System Investigation & Rehab

Description: Misc sewer rehab work throughout the city of Corinth MS

Owner: City of Corinth

Contact: Matthew Estes – Cook Coggin Engineers

Contract Amount: \$1,907,485.00

Contract Time: 450 days

Percentage Complete: 30%

Tuscaloosa Annual Rehab Contract

Description: Manhole and sewer rehabilitation work throughout the City of Tuscaloosa

Owner: City of Tuscaloosa

Contact: Jarrod Milligan – (205) 248.5912

Engineer: City of Tuscaloosa Water & Sewer Department

Contract Amount: \$756,110

Contract Time: Annual

Percent Complete: 55%

Cedar Crest Drainage Structure

Description: Installation of Drainage Culvert and Road Paving

Owner: City of Tuscaloosa

Contact: Jimmy Duncan- McGiffert & Associates

Contract Amount: \$1,149,293.00

Contract Time: 90 days

Percentage Complete: 100%

Reform Wastewater Treatment Plant

Description: Installation of new Wastewater Treatment plant

Owner: City of Reform

Contact: Jonathan Bonner- CFM Group

Contract Amount: \$1,699,356.00

Contract Time: 180 days

Percentage Complete: 100%

2014 Works In Progress**2014 Paving Area Sanitary Sewer Repairs**

Description: Replacement of manholes, Point repairs, 1,600 lf gravity replacement

Owner: Talladega Water & Sewer

Contact: Timothy Rylee

Contract Amount: \$379,668.50

Contract Time: 30

Percentage Complete: 100%

Woodlawn Phase II

Description: Installation of new water line and new services.

Owner: Birmingham Water Works Board

Contact: Jay Trimm

Contract Amount: \$747,425.00

Contract Time: 160 Days

Percentage Complete: 100%

Town of Hackleburg Wastewater Treatment Plant Facility

Description: Construction of above ground treatment plant.

Owner: Town of Hackleburg

Contact: Whitey Cochran (Mayor)

Engineer: Heath Reed

Contract Amount: \$1,065,000

Contract Time: 150

Percentage Complete: 100%

Gas Line Extension Pontotoc MS

Description: Construction of gas pipeline for new services.

Owner: Town of Pontotoc

Contact: Mayor Jeff Stafford

Engineer: Engineering Solutions

Contract Amount: \$324,875

Contract Time:

Percentage Complete: 100%

4th & 5th Street Sanitary Sewer & Drainage Improvements

Description: Sanitary Sewer line replacement

Owner: City of Fayette

Contact: Joiner Pugh

Engineer: Heath Reed

Contract Amount: \$1,169,272

Contract Time: 6 Months

Percentage Complete: 100%

2014 Sanitary Sewer Rehab & Repair Project

Description: Manhole and sewer rehabilitation work throughout the City of Tuscaloosa

Owner: City of Tuscaloosa

2122 6th Street

Tuscaloosa, Al 35401

Contact: Jarrod Milligan – (205) 248.5912

Engineer: City of Tuscaloosa Water & Sewer Department

Contract Amount: \$756,110

Contract Time: Annual

Percent Complete: 100%

2013 Work

2013 Sanitary Sewer Rehab & Repair Project

Description: Manhole and sewer rehabilitation work throughout the City of Tuscaloosa

Owner: City of Tuscaloosa

2122 6th Street

Tuscaloosa, AL 35401

Contact: Jarrod Milligan – (205)248.5912

Engineer: City of Tuscaloosa Water & Sewer Department

Contract Amount: \$756,110

Contract Time: Annual

Percent Complete: 100%

Wylam, Phase I

Owner: Birmingham Water Works Board
3600 First Avenue North
Birmingham, AL 35283
Contact: Jay Trimm – (205)244.4260
Contract Amount: \$1,077,002.00
Contract Time: 365 days
Percent Complete: 99%

University Blvd. Pedestrian Lighting, Landscaping, and Bike Lane

Description: Excavation, concrete sidewalk, erosion control, traffic control, light poles & concrete pole bases, landscaping & irrigation
Owner: University of Alabama Construction Administration
1205 14th Street
Tuscaloosa, AL 35401
Contact: Richard Powell – (205)348.1392
Engineer: McGiffert and Associates, LLC
Jason Coker
(205)759.1521
Contract Amount: \$800,000.00
Percent Complete: 100%
Scheduled Completion: August 2013

2012 Resurfacing Project

Description: Installing new water lines, repairing existing lines, tie-ins, meter boxes
Owner: City of Tuscaloosa
1000 28th Avenue
Tuscaloosa, AL 35401
Contact: Ronnie Pugh – (205)248.5311
Engineer: Office of the City Engineer
Contract Amount: \$150,000.00
Contract Time: Annual
Percent Complete: 100%
Scheduled Completion: December 2013

Walter Energy Black Warrior Basin

Pipelines, compressor stations, road work, location maintenance, and roustabout work.
Owner: Walter Energy
Tuscaloosa County, AL
Contact: Bob Singleton – (205)759.1161
Contract Amount: Ranges from \$2,000,000 to \$3,000,000 annually
Percent Complete: 100%

Scheduled Completion: Annual Contract

2012 Work

Sanitary Sewer Pipeline Rehabilitation

Description: Point repairs, line replacement, and manhole rehab

Owner: City of Linden

211 North Main Street

Linden, AL 36748

Engineer: Goodwyn, Mills, & Cawood

2660 EastChase Lane, Ste 200

Montgomery, AL 36117

Contact: DeAnn S. Grantham – (334)271.3200

Date of Completion: December 2012

Subcontract Amount: \$73,300.00

Percent with Own Forces: 100%

Trunk Sewer Rehab & Hale Street Sewer Relocation

Description: Point Repairs, line replacement, and manhole rehab

Owner: City of Greensboro

1101 Main Street

Greensboro, AL 36744

Engineer: Goodwyn, Mills & Cawood

2660 EastChase Lane, Ste 200

Montgomery, AL 36117

Contact: Jeremy Lewis – (334)271.3200

Date of Completion: February 2013

Contract Amount: \$280,000.00

Percent with Own Forces: 90%

Spray Field, Lagoon, & Site Work

Description: Sprayfield, pump stations, force mains, lagoon, earth work, and plant construction

Owner: City of Guin

7500 US 43

Guin, AL 35563

Engineer: Goodwyn Mills and Cawood

44750 Highway 17

Vernon, AL 35592

Contact: Heath Reed – (205)695.9137

Date of Completion: January 2013

Contract Amount: \$719,900.00

Percent with Own Forces: 65%

Birmingham Water Works Board – Standard Paving North Birmingham Project

Engineer: Jay Trimm
Contract Amount: \$185,000
Completion Date: August 2012

Vantage Energy – Well Plug & Abandon

Engineer: John Moran
Contract Amount: \$65,000
Date of Completion: October 2012

SAGA Petroleum – Location Piping

Engineer: Doug Bonner
Contract Amount: \$270,000
Date of Completion: June 2012

Walter Energy Black Warrior Basin

Tuscaloosa County, AL
Pipelines, compressor stations, road work, locations, maintenance, and roustabout work.
Contract Amount: Ranges from \$2,000,000 to \$3,000,000 annually
Completion Date: Annual Contract
Contact: Bob Singleton – (205) 759-1161

2011 Work

Tuscaloosa Housing Authority – Redevelopment of Rosedale Courts Phase I

Engineer/Architect: Owner
Jeff Sullivan
Contract Amount: \$190,000
Date of Completion: September 2011

Disaster Debris Cleanup

Engineer/Architect: Phillips & Jordan
Contract Amount: \$334,044
Date of Completion: October 2011

Walter Energy Black Warrior Basin

Tuscaloosa County, AL
Pipelines, compressor stations, road work, locations, maintenance, and roustabout work.
Contract Amount: Ranges from \$2,000,000 to \$3,000,000 annually
Completion Date: Annual Contract
Contact: Bob Singleton – (205) 759-1161

2009 & 2010 Work

Walter Energy Black Warrior Basin

Tuscaloosa County, AL

Pipelines, compressor stations, road work, locations, maintenance, and roustabout work.

Contract Amount: Ranges from \$2,000,000 to \$3,000,000 annually

Completion Date: Annual Contract

Contact: Bob Singleton – (205) 759-1161

2008 Work

City of Tuscaloosa – Bama Concrete Drainage Project Phase II

Installed over 640 feet of 12'x5' drainage culvert in Tuscaloosa, AL

Engineer: CMF Group, LLC

Jeremy Pike

Contract Amount: \$700,000

City of Cullman – Lake George Rehabilitation Project Phase I & II

Stopped leak in intake structure and fixed dam around lake

Engineer: Goodwyn Mills and Cawood

Bart Taft

Contract Amount: \$270,400

Town of Wilsonville - Water Distribution Main

Installed 21,300 feet of 8" DIP including 450 feet of 16" road bores and 600 feet of 8" DIP creek crossing

Engineer: The Cassady Company

Brian Green or Calvin Cassady

Walter Energy Black Warrior Basin

Tuscaloosa County, AL

Pipelines, compressor stations, road work, locations, maintenance, and roustabout work.

Contract Amount: Ranges from \$2,000,000 to \$3,000,000 annually

Completion Date: Annual Contract

Contact: Bob Singleton – (205) 759-1161

2007 Work

Braelin Village Subdivision – Phase II

Old Marion Development – Tuscaloosa County

Installed over 750 feet of reinforced concrete pipe in sizes ranging from 18-42"

Installed over 2,000 feet of gravity sewer in sizes ranging from 4-8"

Engineer: Ron Henderson

Beacon Hill Subdivision – Sanitary Sewer

Installed 200 feet of 8” PVC sanitary sewer

Engineer: Herndon, Hicks and Associates

Bobby Herndon

Faith Estates Subdivision – Water Line

Fosters/Ralph Water Authority

Installed water mains, fire hydrants and tapped 6” water main

Installed over 1,500’ of water line

Engineer: Ron Henderson

Inspector: Darrell Hopson

McGiffert & Associates

Hidden Forest Subdivision

Carroll’s Creek Water Authority

Installed water mains, fire hydrants and tapped 8” water main

Installed over 800’ of water line

Engineer: Ron Henderson

Jeff Devers- Inspector

McGiffert & Associates

Walter Energy Black Warrior Basin

Tuscaloosa County, AL

Pipelines, compressor stations, road work, locations, maintenance, and roustabout work.

Contract Amount: Ranges from \$2,000,000 to \$3,000,000 annually

Completion Date: Annual Contract

Contact: Bob Singleton – (205) 759-1161

The Construction Superintendant will be Grady Pugh.

He has supervised all of the above projects.

STATE OF ALABAMA)
TUSCALOOSA COUNTY)
CITY OF TUSCALOOSA)

CITY OF TUSCALOOSA PUBLIC WORKS CONTRACT DOCUMENTS

SECTION FIVE
CONTRACT AGREEMENT
(2016)

THIS AGREEMENT made and entered into this 25th day of May, 2016, by and between REV Construction, Inc., hereinafter sometimes called the CONTRACTOR, as party of the first part, and the CITY OF TUSCALOOSA, Alabama, a Municipal Corporation, hereinafter sometimes called the CITY or OWNER, as party of the second part,

W-I-T-N-E-S-S-E-T-H:

In consideration of the amounts herein named and of the mutual agreements and provisions herein contained, the Contractor and the City agree in regard to a public works project (hereinafter either the "work" or the "Project") as described in the Advertisement for Bids.

The Contractor will perform the work and/or construct the Project as well as furnish at his own cost and expense all labor, tools, equipment and transportation as are herein and in the Contract documents required to be furnished by the Contractor, and shall perform all the work in a manner and form required to construct the Project described in and shown on the contract documents as the same are hereinafter more specifically described and as provided by the plans, specifications and documents which are attached hereto and made a part hereof, as if fully set out herein and addenda together with all plans and drawings on file in the office specified below.

ARTICLE I. GENERALLY

A. **Contract Documents:** As used throughout the documents constituting the contract, the term "Contract Documents" shall mean and include the following: Advertisement for Bids, Addenda (if issued), the Instructions to Bidders, the Bid Proposal, the General Specifications, the Detail Specifications, Supplemental and Special Conditions (if attached), together with this Contract Agreement and any modifications, including change orders, if made, and the drawings, plans and profiles that are now on file in the office referred to in the advertisement, the Performance Bond and the Labor and Material Bond, executed by the Contractor in connection with this Contract and insurance requirements and certificates.

All such documents hereinabove enumerated are adopted herein by reference and constitute the Contract between the parties to the same extent as if each were set out in full in this agreement.

B. **Independent Contractor:** The Contractor enters into this Contract with the City as an independent contractor and, as such, agrees that neither the City nor its officers, agents, employees or inspectors shall be responsible for the acts or omissions of the Contractor, or any subcontractor, or any of the Contractor's or subcontractor's agents or employees, or any other persons performing any of the work pursuant to this Contract. The Contractor shall be solely responsible for controlling construction manner, means and techniques consistent with the contract documents, plans and specifications.

C. **Order of Precedence:** Should there be a direct conflict between the various elements of the contract documents to the extent that the same cannot be reconciled to be read *in para materia*, then precedence shall be given the same in the following order:

1. Subsequent modifications (change orders or amendments) to contract agreement after execution
2. Addenda (if issued)
3. Supplemental general conditions and special conditions (if included)
4. The Contract Agreement
5. General and technical specifications
6. Large Scale Drawings (if included)
7. Enlarged Plans (if included)
8. Plans (if included)
9. Instructions to bidders
10. Advertisement for bids
11. Proposal (Bid)
12. Purchasing Agent Appointment Agreement (if utilized)

Where more than one document relates to the same matter if both can be given reasonable effect both are to be retained. Written specifications will take precedence over drawings.

D. Integration; Contract Terms and Construction:

1. Integration: This Agreement, together with all documents which constitute the "Contract Documents," constitute the entire agreement of the parties, as a complete and final integration thereof with respect to its subject matter. All understandings and agreements heretofore had between and among the parties are merged into this Agreement, which alone fully and completely expresses their understandings. No representation, warranty, or covenant made by any party which is not contained in this Agreement or expressly referred to herein has been relied on by any party in entering into this Agreement.
2. Amendment in Writing: This Agreement may not be amended, modified, altered, changed, terminated, or waived in any respect whatsoever, except by a further agreement or change order, in writing, properly executed by all of the parties.
3. Binding Effect: This Agreement shall bind the parties and their respective personal representatives, heirs, next of kin, legatees, distributees, successors, and assigns.
4. Captions: The captions of this Agreement are for convenience and reference only, are not a part of this Agreement, and in no way define, describe, extend, or limit the scope or intent of this Agreement.
5. Construction: This Agreement shall be construed in its entirety according to its plain meaning and shall not be construed against the party who provided or drafted it.
6. Mandatory and Permissive: "Shall," "will," and "agrees" are mandatory; "may" is permissive.
7. Governing Laws: The laws of the State of Alabama shall govern the validity of this Agreement, the construction of its terms, the interpretation of the rights, the duties of the parties, the enforcement of its terms, and all other matters relating to this Agreement.
8. Ownership of Contract Documents: The Contract Documents, and copies of parts thereof, are furnished and owned either by the City or the design professional. All portions of the Contract Documents, and copies of parts thereof, are the instruments of service for this Project. They are not to be used on other work and are to be returned to the City on request at the completion of the Project. Any reuse of these materials without specific written verification or adaptation by the City will be at the risk of the user and without liability or legal expense to the City or Engineer/Architect. Such user shall hold the City and Engineer/Architect harmless from any and all damages, including reasonable attorneys' fees, from any and all claims arising from any such reuse. Any such verification and adoption shall entitle the City to further compensation at rates to be agreed upon by the user and the City.

E. Rules of Construction: For the purposes of this contract, except as otherwise expressly provided or unless the context otherwise requires:

1. Words of masculine, feminine or neuter gender include the correlative words of other genders. Singular terms include the plural as well as the singular, and vice versa.
2. All references herein to designated "articles," "sections," and other subdivisions or to lettered exhibits are to the designated articles, sections and subdivisions hereof and the exhibits annexed hereto unless expressly otherwise designated in context. All article, section, other subdivision and exhibit captions herein are used for reference only and do not limit or describe the scope or intent of, or in any way affect this agreement.
3. The terms "include," "including," and similar terms shall be construed as if followed by the phrase, "without being limited to".
4. The terms "herein," "hereof," and "hereunder," and other words of similar import refer to this agreement as a whole and not to any particular article, section, other subdivision or exhibit.
5. All recitals set forth in, and all exhibits to, this agreement are hereby incorporated in this agreement by reference.
6. No inference in favor of or against any party shall be drawn from the fact that such party or such party's counsel has drafted any portion hereof.
7. All references in this agreement to a separate instrument are to such separate instrument as the same may be amended or supplemented from time to time pursuant to the applicable provisions thereof.

F. **Construction Manager - Multiple Trade Contracts:** If indicated in the Advertisement for Bids, the City has elected to engage the services of a Construction Manager for the work on this Project. If so, the same will be indicated in the bid packages and special supplemental conditions will be attached in regard to trade contracts. Contractor, as one of the multiple trade contractors on the Project shall adhere to all terms and conditions of the contract documents, particularly the supplemental conditions regarding multiple trade or multiple prime contractors. Any provision of the general conditions in direct conflict with the supplemental conditions is superseded to the extent of the conflict. If using a Construction Manager format, then this shall be a multiple trade or multiple prime contract agreement subject to the supervision and direction of a Construction Manager, in accordance with the terms and provisions of the Construction Manager's agreement with the City, which agreement is adopted herein by reference.

G. **Coordination of Plans, Specifications, etc.:** The specifications, the plans, drawings and all supplementary documents are essential parts of the Contract, and requirements occurring in one are as binding as though occurring in all. They are intended to be comprehensive to describe and provide a complete work. In case of discrepancy, figured dimensions shall govern.

H. **Corrections of Plans, etc.:** Should any portions of the plans, specifications or drawings be obscure or in dispute, they shall be referred to the Engineer/Architect and he shall decide as to the true meaning and intent. The Engineer/Architect shall also have the right to correct any errors or omissions at any time when such corrections are necessary for the proper fulfillment of said plans and specifications.

I. **Taxes and Charges:** Except to the extent the City and the Contractor are utilizing a "Purchasing Agent Appointment agreement," Contractor shall withhold and pay all sales and use taxes and all withholding taxes, whether local, state or federal and pay all Social Security taxes and also all State Unemployment Compensation taxes, and pay or cause to be withheld, as the case may be, any and all taxes, charges, or fees or sums whatsoever, which are now or may hereafter be required to be paid or withheld under any laws. Pursuant to Ala. Code §39-1-3 (1975), Contractor shall be reimbursed for any additional severance, sales or uses taxes incurred as a result of an increase in such taxes during performance of the contract.

J. **Shop Drawings and Submittals.** The Contractor shall submit shop drawings, samples and submittals depicting or representing the construction of portions of the Project in accordance with the plans and specifications to the Engineer/Architect and if there is no Engineer or Architect on the Project, to the City representative. The Contractor

shall pay for or the cost may be withheld from payments to the Contractor for more than two (2) reviews of the shop drawings, samples or submittals or similar element of work by the Engineer, Architect or City representative.

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

L. **Compliance with Affordable Health Care Act.** By signing this contract, the contracting parties affirm, for the duration of the agreement, that they will not violate federal compliance laws pertaining to the Affordable Health Care Act. Furthermore, a contracting party found to be in violation of this provision shall be deemed in breach of the agreement and shall be responsible for all damages resulting therefrom, to the extent allowed by Federal law.

ARTICLE II. PAYMENTS, CLAIMS AND CHARGES, ETC.

A. **Contract Price:** The City will pay and the Contractor will accept in full consideration for the performance of the work/Project, subject to additions and deductions (including but not limited to liquidated damages) as provided in the contract documents and herein, the sum of _____ (\$ _____) and/or in unit prices as shown in Bidder's schedule for the base bid amount of \$ _____, being the amount of the Contractor's bid as awarded by the City.

B. **Estimated Quantities and Unit Prices:** If award was made in whole or in part based upon unit prices, the Contractor agrees that the prices given in the Proposal are unit prices. The estimated quantities as stated in the Advertisement for Bids and in the Proposal and as indicated on the plans or in other places are approximate only, are subject either to increase or decrease and are only for the purpose of comparing on uniform basis the bids offered for the Project under this contract. The Contractor further agrees that should the quantities of any of the items of the work be increased, he will do the additional work at the unit prices set out in the Proposal and should the quantities be decreased, payment will be made on actual quantities at the unit prices and he will make no claim for anticipated profits for any decrease in the quantities. Actual quantities will be determined upon completion of the Project.

C. **Overtime Work by Contractor:** If the Contractor for his convenience and at his own expense should desire to carry on his work at night or outside regular hours, he shall submit written notice to the Engineer/Architect and he shall allow ample time for satisfactory arrangements to be made for inspecting the work in progress. At no time shall the notice be given less than 24 hours before such overtime work is started. The Contractor must obtain, through the Engineer/Architect, the City's approval for work at night, on Saturdays, Sundays or legal holidays. The Contractor shall light the different parts of the Project as required to comply with all applicable federal and state regulations and with all applicable requirements of the City.

Overtime hours shall be considered any hours worked by the Contractor on Saturday, Sunday and legal holidays, which in the Engineer/Architect's opinion requires the Engineer/Architect's resident observers' presence to observe such overtime work. Overtime hours requiring the presence of City inspectors shall be considered any hours worked by the Contractor in excess of eight (8) hours during any working day and/or in excess of forty (40) hours from Monday through Friday and/or any time on Saturday, Sunday or legal holiday. In general, it should be expected that the Engineer/Architect's resident observer(s) or City's inspectors will be present at all times that the Contractor is working.

If the Contractor elects to schedule and perform overtime work, the Contractor shall pay the City for the City's resident inspector's salary plus costs for each hour of overtime work. Overtime shall be rounded up to the nearest whole hour. This amount shall include the inspector's salary at overtime rate, labor additive, which includes insurance,

social security, workmen's compensation, sick pay, paid holidays, vacation pay and his vehicle and equipment. Payment to the City shall be made by a deduction from the Contractor's monthly payment invoice for any overtime worked.

D. **Payments on Account/Payments Withheld/Retainage:** Upon presentation of a verified application for payment, which shall include a "Contractor's Affidavit of Payment of Debts and Claims," AIA Form G706 or equivalent, then usually by the fifteenth (15th) day of each calendar month or as soon thereafter as is practical, as the Project progresses, the City shall make partial payments to the Contractor of the billable work performed less payments already made and less deductions for any incomplete, unaccepted or defective work. In making partial payments to the Contractor, there shall be retained five (5%) percent of the estimated amount of work done and value of materials stored on the site or suitably stored and insured off-site. Provided; however, after fifty (50%) percent of the Project has been satisfactorily completed, no further retainage will be withheld.

Retainage shall be held until final completion and acceptance of all work covered by the Contract Documents unless escrow or deposit arrangements are agreed to by the City. When maintenance periods are included in the Contract Documents covering highways, bridges or similar structures, such period shall be considered a component part of the contract and retainage will be held until the expiration of such periods.

On completion and acceptance of each separate building, public work or other separately identifiable and complete division of the Project in regard to which a separate price has been stated in the Contract Documents or can be separately ascertained, payment may be made in full including retainage but less deductions. Provided; however, the City will not consider making such payment on any such item of work if it is an integral part of a complete project.

All materials and work covered by partial payments as provided for herein shall become the sole property of the City; provided, however, the Contractor shall not be relieved from the sole responsibility for the care and protection of materials and work upon which payments have been made and for the restoration of any damaged work.

The City may also withhold from time to time from payment to the Contractor such an amount or amounts as may be necessary to pay and fully satisfy all claims and demands for labor and services rendered in and about the Project, including any such amount or amounts due to be paid to or by any subcontractor or supplier, amounts for City's or Engineer/Architect's observers or inspectors for contractors' overtime as herein provided, or for engineering or design services associated with Contractor initiated change orders or submittals in excess of that permitted herein. The Contractor hereby authorizes the City as its agent, to apply such amounts so withheld to the payment of any amount so due to be paid and all other just and lawful claims other than claims for damages for tort. In case of disagreement with reference to any such claim or claims, the City may keep such amounts so withheld on account of such claim or claims until such disagreement is finally settled and determined.

In addition, the City may also withhold payment of the whole or any part of a verified or approved application for payment from the Contractor to such an extent as may be necessary to protect itself from loss on account of any of the following causes discovered subsequent to its verification or approvals:

1. Defective work.
2. Evidence indicating probable filing of claims by other parties against the Contractor.
3. Failure of the Contractor or subcontractor to promptly make payments to subcontractors or for materials, labor, food stuffs and supplies.
4. Damage to another contractor under separate contract with the City.
5. Assessment of liquidated damages.

When the above grounds are removed, applications for payment will then be verified and/or approved for amounts not previously verified and approved because of them.

The Contractor shall not attempt to withdraw at any time during the term of this contract or any extensions thereof, without the expressed written consent of the City, the whole or any part of the amounts so retained by the City from payments due the Contractor by the establishment of an escrow account or by depositing securities in lieu thereof, pursuant to Ala. Code §39-2-12(e) or (f), or any amendments thereto or any equivalent law, ordinance or regulation. It is expressly agreed between the parties hereto that should the City elect not to consent to the same, then the Contractor shall not elect to, attempt to or in any manner endeavor to withdraw such retained amounts.

E. **Claims for Extra Cost:** If the Contractor claims that any instructions by drawings or otherwise involve extra cost or any extension of time, he shall notify the City in writing within ten (10) days after the receipt of such instructions and in any event before proceeding to execute the Project. Thereafter, the procedure shall be the same as that for change orders. No such claim shall be valid unless made in accordance with the terms of this section. There shall be no damages for delay.

Except as otherwise herein provided, no charge for any extra work will be allowed unless the same has been duly authorized in writing by the City and the price stated in such order.

F. **Differing Site Conditions:** If, in the performance of the Contract, subsurface or latent conditions are found to be materially different from those indicated by the plans and specifications, or unknown conditions of an unusual nature are disclosed differing materially from conditions usually inherent in work of the character shown and specified, the Contractor shall immediately notify the Engineer/Architect in writing regarding such conditions but in no event later than forty-eight (48) hours after discovery of such conditions by the Contractor.

The written notice shall describe the conditions, and other pertinent information, in no event shall such notice be later than forty-eight (48) hours before such conditions are disturbed. Upon such notice, or upon such observation of conditions, the Engineer/Architect will promptly make such changes in the plans and/or Specifications as he finds necessary (if any are necessary) to conform to the different conditions, and any increase or decrease in the cost of the Project resulting from such changes may be adjusted as provided under Change Orders or Claims for Extra Cost as set forth in the Contract documents.

G. **Change Orders:** Change orders shall be allowed only under the following conditions: 1) Minor changes for a total monetary amount less than that required for competitive bidding; or 2) Changes for matters incidental to the original contract necessitated by unforeseeable circumstances arising in the course of work under the contract; or 3) Changes due to emergencies; or, 4) Changes provided for in the original bidding and original Contract Documents as alternates; 5) Changes of relatively minor items not contemplated when the plans and specifications were prepared and the Project was bid and which are in the public interest and generally do not exceed 10 percent of the Contract Price, subject to Alabama Bid Law exceptions.

The Contractor or successful bidder is expected to complete the Project as bid and specified within the financial parameters stated therein. However, if it shall be determined that a change order condition possibly exists in any given case during the performance of the contract, the Contractor shall promptly notify in writing the representative of the City and shall not implement such change until having notified the representative of the City. If the change is minor in the opinion of the representative of the City and does not involve, 1) an adjustment in the contract sum or construction bid price, or 2) result in extension of the contract time, or 3) a material change in the contract scope of services, then the City representative may authorize the change in writing to the Contractor. The Contractor shall not perform such change until receipt of such written change order.

In the event the change order requested by the Contractor involves, 1) an increase in the contract sum or construction bid price, 2) extend the contract time, or 3) materially change the Contractor's scope of work or services, then the Contractor shall request a change order in writing and present the same to the City representative. The representative of the City, shall determine whether this is a change order which can be allowed and, if so, what exception it would fall under. The representative of the City shall then document the same, attach the same to the

Contractor's request for a change order and submit the same with his recommendation to the City Council at its next or any subsequent regularly scheduled Council meeting for approval.

The City reserves the right to institute change orders as the Owner pursuant to the aforesaid terms and conditions.

In no event is a change order to be executed by the Contractor prior to approval thereof by the City, except for emergencies.

H. **Determination of Adjustment of the Contract Sum:** The adjustment of the Contract Sum resulting from a change in the Work shall be determined by one of the following methods as determined by Owner:

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

I. **Construction Schedule and Periodical Estimates:** Immediately after execution and delivery of the contract and before the first partial payment is made, the Contractor shall deliver to the City and Engineer/Architect and Construction Manager, a construction schedule in a form satisfactory to the City or Construction Manager, which may include CPM for all major trades, showing the proposed dates of commencement and completion of each of the various activities, of work required under the Contract documents, the interrelationship of each activity, sequences, resources for each and the anticipated amount of each monthly payment that will become due the Contractor in accordance with the progress schedule. The Contractor shall also furnish (1) a detailed estimate giving a complete breakdown on the contract price and (2) periodical itemized estimates of the work done for the purpose of making partial payments, however the same will not be considered as fixing a basis for additions to or deductions from the contract price. Scheduling is particularly critical if Contractor is a trade contractor and adherence to the Construction Manager progress schedule is required.

NOTE: Depending upon the complexity of the work the City may require CPM or equivalent meeting all criteria above.

J. **Sales and Use Tax Savings:** Pursuant to the invitation for bids, sales and use taxes are not to be included in the bid. The project will be administered in compliance with the State of Alabama Act 2013-205, Certificate of Exemption from Sales and Use Tax for Governmental Entities, regarding sales and use taxes. The Contractor shall be responsible for obtaining a certificate of exemption from the Alabama Department of Revenue for purchases of materials and other tangible property made part of the project. Any subcontractors purchasing materials or other tangible personal property as part of the project shall also be responsible for obtaining a certificate of exemption. The estimate sales and use tax saving must be accounted for on the bid proposal. Failure to provide the estimated sales and use tax savings may render the bid as non-responsive. Other than determining responsiveness of the bid, sales and use tax accounting shall not affect the bid pricing nor shall be considered in the determination of the lowest responsible and responsive bidder

ARTICLE III. TIME

A. **Time for Completion/Delays:** The Contractor hereby agrees to commence work under this contract on the date to be specified in a written "Notice to Proceed" of the Engineer/Architect or thirty (30) days from the date of contract execution if no notice is issued, and to fully complete the Project within 240 consecutive calendar days thereafter. If this is a trade contract, then the Contractor shall perform within the time periods and at the times as established by the Construction Manager's approved construction schedule for the project. The Contractor further agrees to pay to the City, liquidated damages for each consecutive calendar day thereafter as hereinafter provided. Time is of the essence and a material element to this agreement.

NOTE: When maintenance periods are included in the contract for highways, bridges or similar structures, such periods shall be considered component parts of the contract. To the extent the construction schedule contains "float," the parties agree that the same belongs to the Project and may be utilized by either party.

Delay: If the Contractor is delayed at any time in the progress of work by any of the following causes, the Contractor may be entitled to a reasonable extension of time as determined by the City in which to complete the Project. Provided, however, no such delay nor the extension of time if granted shall be grounds for a claim by the Contractor for damages or for additional cost, expenses, overhead or profit or other compensation:

1. Fires, abnormal floods, tornadoes or other cataclysmic phenomenon of nature.
2. Strikes, embargoes, lockouts, war, acts of public enemy.
3. Change orders.
4. Acts of performance or delays in performance by other contractors employed by the City or their subcontractors.
5. Causes beyond the control of the Contractor.

Provided further, that the Contractor shall immediately give notice in writing to the City and follow extension of time procedures as provided for herein. The City expressly disclaims any liability to Contractor for any cost, expense or damage caused by other contractors, subcontractors or suppliers, including those engaged by the City. The City shall not be liable for damages or cost to the Contractor sustained due to any interference from utilities or appurtenances or from the operations of relocating the same.

B. **Extensions of Time:** All written requests for extensions of time must be submitted to Engineer/Architect within ten (10) days after the occurrence of the cause for delay. The Engineer/Architect shall ascertain the facts and the extent of the delay and shall recommend to the City Council whether it should extend the time for completing the Project. Any extension of time shall be in writing and processed as a change order.

For change orders requesting extensions of time due to rain, wind, flood or other natural phenomenon, the Contractor's written request must be accompanied, at the City's request, by a detailed report of weather at this site for the last ten (10) years with averages showing means and statistical deviations from mean averages to support request for extension.

No extension shall be made for delays due to rain, wind, flood or other natural phenomenon of normal intensity for the locality.

In the event any material changes, alterations, or additions are made as herein specified, which in the opinion of the Engineer/Architect will require additional time for execution of any work under the contract, then in that case, the time of the completion of the Project may be extended through change order. No extensions of time shall be given for any minor changes, alterations or additions. The Contractor shall not be entitled to any reparation or compensation on account of such additional time or extensions of time. To the extent that the construction schedule contains "float," the parties agree that the same belongs to the Project and may be utilized by either party.

C. **Right of the City to Terminate Contract:** If the Contractor should be adjudged as bankrupt, or if it should make a general assignment for the benefit of its creditors, or if a receiver should be appointed for the Contractor or any of its property, or if it should persistently or repeatedly refuse or fail to supply enough properly skilled workmen or if it should refuse or fail to make prompt payment to persons supplying labor for the Project under the Contract, or persistently disregard instructions of the Engineer/Architect or fail to observe or perform any provisions of the Contract documents, or fail or neglect to promptly prosecute or perform the Project in accordance with the contract documents or otherwise be guilty of a substantial violation of any provision of the Contract documents, then the City may, on giving at least thirty (30) days' written notice to the Contractor, without prejudice to any other rights or remedies of the City in the premises, terminate the Contractor's right to proceed with the Project. In such event, the City may take over the Project and prosecute the same to completion, by contract or otherwise, and the Contractor and its sureties shall be liable to the City for any and all excess cost occasioned to the City thereby, including attorney's fees; and in any such case, the City may take possession of and utilize in completing the Project such appliances and plant of the Contractor or its subcontractors as may be on the site work and necessary or useful thereof. In the event of termination, the same shall not relieve the Contractor nor any of its sureties of their obligation pursuant to this agreement. In the event it becomes necessary for the City to maintain any legal action against the contractor, to enforce its rights herein, the Contractor shall pay the City all expenses associated therewith including a reasonable attorney's fee.

Owner may at any time and for any reason terminate Contractor's services and work at Owner's convenience. Upon receipt of such notice, Contractor shall, unless the notice directs otherwise, immediately discontinue the work and placing of orders for materials, facilities and supplies in connection with the performance of this Agreement. Upon such termination, Contractor shall be entitled to payment only as follows: (1) the actual cost of the work completed in conformity with this Agreement; plus, (2) such other costs actually incurred by Contractor as are permitted by the prime contract and approved by Owner; (3) plus ten percent (10%) of the cost of the work referred to in subparagraph (1) above for overhead and profit.

D. **Liquidated Damages:** Should the work under this contract not be completed within the time specified, scheduled or as extended, it is understood and agreed that there may be deducted by the City or Engineer/Architect from the partial and/or final payments to the Contractor or otherwise charged to the Contractor, a sum computed at the rate of Seven Hundred and Fifty Dollars (\$750.00) per day beginning from the stated or extended date of completion and continuing for so long as the Project remains incomplete. It is understood and agreed that the above deduction is not a penalty, but money due to reimburse the City/Owner for inconvenience and damage to the general public, due to the delay in the completion of the Project and is reasonable. The collection of liquidated damages by the City shall not constitute an election or waiver by the City of recovery of additional delay or non-delay related damages from the Contractor, and the City expressly reserves the right to recover actual damages for other harms resulting from delay. The provisions of the liquidated damage clause shall apply and continue to apply even if the Contractor terminates or abandons the Project prior to the scheduled completion dates.

The amounts of such liquidated damages and actual damages incurred by reason of failure to complete the work stipulated in the Contract are hereby agreed upon as reasonable estimates of the costs which may be accrued by the City. It is expressly understood and agreed that these amounts are not to be considered in the nature of penalties, but as damages which have accrued against the Contractor. The City shall have the right to deduct such damages from any amount due, or that may become due the Contractor, or the amount of such damages shall be due and collectible from the Contractor or Surety.

ARTICLE IV. WORK AND MATERIALS

A. **Cooperation of Contractor:** The Contractor shall have available on the job site, at all times, at least one (1) copy of the plans and specifications if prepared for the Project.

He shall give the Project the constant attention necessary to facilitate the progress thereof and shall cooperate with the City, Engineer/Architect and with other Contractors in every way possible. The Contractor shall at all times have a superintendent, capable of acting as his agent on the Project, who shall receive communications from the Engineer/Architect or his authorized representatives or the City's authorized representative. The superintendent shall have full authority to give and execute orders relating to the Project without delay and to promptly supply such tools, plant equipment, materials and labor as may be required.

The City reserves the right to utilize its own forces on the site or those of another contractor and to communicate through its representative directly with the Contractor.

B. Coordination - Trade Contractors: If the supplemental conditions are attached to these general conditions indicating that this Project involves the use of multiple trade or multiple prime contractors under the supervision and direction of a Construction Manager employed by the City, then each such trade contractor shall cooperate and coordinate its construction activities and operations with those of other trade contractors and other entities involved in the Project and included under different sections of the specifications that are dependent upon each other in any manner for proper and correct installation, connection and operation, to assure efficient, prompt, orderly and proper installation of each part of the Project.

When utilizing trade contractors and/or multiple prime contractors under the supervision of Construction Manager cooperation and coordination of activities is extremely important. Refer to the provisions of the supplemental conditions for detailed requirements.

C. Superintendence: The Contractor shall assign to and keep at the Project site competent supervisory personnel. The Contractor shall designate, in writing, before starting work, an authorized representative who shall be an employee of the Contractor and shall have complete authority to represent, to receive notice for, and to act for the Contractor. The Contractor shall not permit or allow any work to be conducted upon the Project site without the presence of supervisory personnel. The Engineer/Architect shall be notified in writing prior to any change in superintendent assignment. Using his best skill and attention, the Contractor shall give efficient supervision to the Project. The Contractor shall be solely responsible for all construction means, methods, techniques, and procedures, for providing adequate safety precautions, and for coordinating all portions of the Project under the Contract. It is specifically understood and agreed that neither the Engineer/Architect nor the City shall not have control or charge of and shall not be responsible for the construction means, methods, techniques, or procedures, or for providing adequate safety precautions in connection with the Project under the Contract.

D. Contractor's Tools and Equipment: The Contractor's tools and equipment used on the Project shall be furnished in sufficient quantity and of a capacity and type that will adequately and safely perform the work specified, and shall be maintained and used in a manner that will not create a hazard to persons or property, or cause a delay in the progress of the Project.

E. Furnishing Labor and Equipment: The Contractor shall furnish and pay for all equipment, labor and supervision, and all such materials as required to be furnished in the Notice to Bidders and as may otherwise be necessary to the completion of the Project and the operation of each construction crew required.

F. Employees: The Contractor shall employ only competent, skillful workers on the Project, and whenever any person shall appear to be incompetent or to act in a disorderly, unsafe improper manner, such person shall promptly be removed from the Project by the Contractor.

G. Materials and Appliances: Unless otherwise stipulated, the Contractor shall provide and pay for all other materials, water, heating, lighting, fuel, power, transportation, machinery, appliances, telephone, sanitary facilities, temporary facilities and other facilities and incidentals necessary for the execution and completion of the Project.

The Contractor warrants to the City and the Engineer/Architect that, unless otherwise specified, all materials and equipment furnished under this contract shall be new, and both workmanship and materials shall be of good quality, free of faults and defects, and in conformance with the Contract Documents. The Contractor shall, if required, furnish satisfactory evidence as to the kind and quality of materials. In selecting and/or approving equipment for installation in the Project, neither the City nor Engineer/Architect assume responsibility for injury or claims resulting from failure of the equipment to comply with applicable federal, state, and local safety codes or requirements, or the safety requirements of a recognized agency, or failure due to faulty design concepts, or defective workmanship and materials. Material and/or equipment damaged by flooding or other causes during the construction period shall be subject to rejection by the Engineer/Architect; reconditioning and/or repairing material and/or equipment is not acceptable.

H. **Asbestos and Hazardous Materials:** Unless specifically authorized and instructed to the contrary by the City, the Contractor shall not permit, allow, place, install or incorporate into the Project or upon the work site, any hazardous material(s), including, but not limited to, any products or materials that contain asbestos in any quantity. It shall be the responsibility of the Contractor to inspect all materials and products delivered for incorporation or installation in the Project to ensure that they contain no hazardous materials or asbestos. Where the Contractor or any subcontractor has or should have a reasonable suspicion that any product or material contains asbestos or other hazardous material, the Contractor shall immediately inspect the material or product, obtain a product or material data sheet, and notify the City's representative prior to installation or incorporation of the same into the Project. Any product or material determined to contain asbestos or other hazardous material shall be removed from the Project immediately and properly disposed of as required by law. Products or material to which the contractor should pay particular attention to avoid the presence of asbestos incorporated therein include, but are not limited to the following: concrete, batt insulation, roof insulation, building felts, mastics, water proofing products, adhesives, resilient flooring products, ceiling tiles, interior coatings, exterior coatings, roofing, pipe installation, duct installation and pre-assembled items of equipment.

At the completion of the Project, the Contractor shall submit a duly executed Asbestos Affidavit in the form as attached hereto prior to final payment.

The Contractor is responsible for insuring that all of its employees and subcontractors are adequately trained to handle hazardous materials in accordance with 49 CFR §172(g).

I. **Protection of Work and Property:** The Contractor shall furnish and install all necessary temporary works for the protection of the Project. The Contractor shall at all times adequately maintain, guard and protect his own work from damage, and safely guard and protect private, commercial, industrial, the City's and others' property from injury or loss arising in connection with this Contract. He shall make good any such damage, injury or loss, except such as may be directly due to errors in the plans or specifications or caused by agents or employees of the City.

The Contractor shall protect all existing vegetation such as trees, shrubs, and grass on or adjacent to the site which are not required to be removed or do not unreasonably interfere with construction, as may be determined by the Engineer/Architect, and be responsible for all cutting or damaging of trees and shrubs or grassed areas, including damage due to careless operation of equipment, stockpiling of materials or equipment.

Care shall be taken by the Contractor in felling trees that are to be removed to avoid any unnecessary damage to vegetation or other trees that are to remain in place. Any limbs or branches unavoidably broken during such operations shall be trimmed with a clean cut and painted with an approved tree priming compound. The Contractor may be required to replace or restore at his own expense all vegetation not protected and preserved, as above required, that may be destroyed or damaged.

The Contractor shall provide and maintain all passageways, guard fences, lights, and other facilities required for protection by federal, state or municipal laws and regulations or local conditions.

The Contractor shall comply with local and state regulations governing the operation of premises which are occupied and shall perform the contract in such a manner as not to interrupt or interfere with the operation of other facilities.

The Contractor shall store his apparatus, materials, supplies, and equipment in such orderly fashion at the site of the Project as will not unduly interfere with the progress of his work or the work of any other contractor.

Necessary crossings of curbs, sidewalks, roadways or parkways shall be protected against damage and any damage shall be repaired by or at the expense of the Contractor.

The Contractor shall not place upon the Project or any part thereof, loads inconsistent with the design or safety of that portion of the Project.

The Contractor shall provide and maintain access to all public and private properties at all times and be responsible for any damage caused by his operation to existing driveways, yards, streets, parking lots, utilities, railroads, etc., and such damage shall be corrected at the Contractor's expense. Roadways authorized closed by State or Local authorities shall be maintained to provide access to all fire, police, and other emergency vehicles and all individuals having private property in the closed area. The Contractor shall notify at least 24 hours in advance the Fire, Police, and Transportation Departments having local jurisdiction, the Owner and any other individuals, businesses, or agencies that may be affected.

J. Protection of Existing Utilities. Contractor shall be responsible for any damage to existing structures or the interruption of any utility services which shall be repaired or restored promptly by and at the expense of the Contractor.

To that extent, the Contractor shall provide whatever measures are necessary to properly protect and maintain all existing utilities encountered in the course of the work. The Contractor shall be exclusively responsible to the utility owner for any and all damages to the various utilities caused by the Contractor's actions or lack of actions to adequately protect the same.

The Contractor shall determine the exact location of all existing utilities before commencing work and agrees hereby to be fully responsible and liable for any and all damages which might occur by his failure to exactly locate and/or preserve the location of any and all underground or overhead utilities. The Contractor shall be solely and directly responsible to the utility owner for any and all damages to the various utilities, caused by the Contractor's actions or lack of actions to adequately protect such utilities. If any utilities are to be affected during the course of construction, the Contractor shall so notify the owners thereof at least seventy-two (72) hours prior to any such construction activity. The Contractor shall fully cooperate and coordinate with all utility owners in the event of an interruption to any utility service. The cost for locating, uncovering and protecting underground and/or overhead utilities is included within the Contractor's bid price for various other items of work.

The Contractor shall maintain all storm sewers, drains and/or ditches so that flow is not disturbed or impeded. The Contractor shall protect storm drains, inlets and/or ditches, lawns, landscaping and other facilities, from damage during the testing, and flushing.

K. Limiting Exposures: The Contractor shall prosecute the work on the Project to insure that no part of the construction, complete or in progress, is subject to harmful, dangerous, damaging, or otherwise deleterious exposure during the construction period. Where applicable, such exposures include, but are not limited to the following:

- | | |
|--|-------------------------------|
| Excessive static or dynamic loading | Rodent and insect infestation |
| Excessive internal or external pressures | Combustion |
| Excessively high or low temperatures | Electrical Current |
| Thermal shock | High speed operation |

Excessively high or low humidity
Air contamination or pollution
Water or ice
Solvents
Chemicals
Light
Puncture
Abrasions
Heavy traffic
Soiling, staining and corrosion
Bacteria

Improper lubrication
Unusual wear or other misuse
Contact between incompatible materials
Destructive Testing
Misalignment
Excessive weathering
Unprotected storage
Improper shipping or handling
Theft
Vandalism

The Contractor shall minimize dust and air pollution through the use of water or other devices, require the use of properly operating combustion emission control devices and by encouraging the shutdown of construction vehicles when not in use.

L. **Safety:** The completed Project shall include all necessary permanent safety devices, such as machinery guards and similar ordinary safety items as may be appropriate or required by law. Further, any feature of the Project (including City-furnished or City-selected equipment) subject to such safety regulations shall be fabricated, furnished, and installed in compliance with these requirements. Contractors and manufacturers of equipment shall be held responsible for compliance with the requirements included herein. Contractors shall notify all equipment suppliers and subcontractors of the provisions of this Article.

In selecting and/or accepting equipment for installation in the Project, neither the City nor Engineer/Architect assume responsibility for any personal injury, property damage, or any other damages or claims resulting from failure of the equipment to comply with applicable safety codes or requirements, or the safety requirements of a recognized agency, or failure due to manufacturer's faulty design concepts, or defective workmanship and materials. The Contractor shall indemnify and hold the City, Program Coordinator, and Engineer/Architect harmless against any and all liability, claims, suits, damages, costs, or expenses without limitation arising out of the installation or use of such equipment.

The Contractor shall take all necessary precautions for the safety of employees on the Project and shall comply with all applicable provisions of federal, state, and municipal safety laws and building codes to prevent accidents or injury to persons on or about or adjacent to the premises where the Project is being performed. He shall erect and properly maintain at all times, as required by conditions, and progress of the Project, all necessary safeguards for the protection of workmen and the public, and shall post danger signs warning against the hazards created by features of construction and the site.

Machinery, equipment and all hazards shall be guarded or eliminated in accordance with the State Accident Prevention in Construction provisions to the extent that such provisions are not in contravention with applicable laws.

The Contractor shall do whatever work is necessary for safety and be solely and completely responsible for conditions of the jobsite, including safety of all persons (including but by no means limited to the public, site personnel, visitors, or employees) and property during the Contract period. The contract period shall include any subsequent warranty or other period associated with Project deficiency or repair and all hours including, and in addition to, normal working hours.

Safety provisions shall conform to the Federal and State Departments of Labor and the Occupational Safety and Health Act (OSHA), and all other applicable federal, state, county, and local laws, ordinances, codes, the requirements set forth herein, and any regulations that may be specified in other parts of these Contract Documents. Where any of these are in conflict, the more stringent requirement shall be followed. The Contractor's failure to

thoroughly familiarize himself with the aforementioned safety provisions shall not relieve him from compliance with the obligations and penalties set forth therein.

The Contractor shall at all times provide proper facilities for safe access to the work by authorized government officials (federal, state, county and local) and representatives of the Owner.

M. **Traffic Control:** The Contractor shall be responsible for traffic control, including plan and devices to the extent the same is required due to work in, upon or in proximity to public right-of-way, streets, roads or vehicular traffic. The traffic control plan and all traffic control devices shall conform at a minimum to the Manual on Uniform Traffic Control Devices for Streets and Highways, Latest Edition, Federal Highway Administration. A copy of which is on file in the office of the City of Tuscaloosa Director of the Department of Transportation for examination. Copies may be obtained from the Alabama Department of Transportation. Should the appropriate public authority determine a greater degree of traffic control is required, then the Contractor shall promptly provide same. The Contractor shall submit a plan to the City Engineer for approval before commencing construction.

Reasonable means of ingress and egress by vehicular and/or pedestrian traffic to property adjacent to the Project shall be maintained at all times. The Contractor shall indemnify and hold the City harmless for any claims or causes of action including but not limited to those for inverse condemnation and/or lost profits arising out of or in any manner associated with access to or the restriction or prevention thereof to adjoining property. Traffic control and erosion control is of paramount importance during the construction of this Project and the terms and conditions in the contract documents in regard to these matters must be strictly adhered to.

N. **Responsibility to Act in Emergency:** In case of an emergency which threatens loss or damage to property, and/or safety, the Contractor shall act, without previous instructions from the City or Engineer/Architect, as the situation may warrant. The Contractor shall notify the Engineer/Architect thereof immediately thereafter. Any claim for compensation by the Contractor, together with substantiating documents in regard to expense, shall be submitted to the City through the Engineer/Architect. The claim will be handled in accordance with the provisions for extra work. However, if the emergency is created or aggravated by the Contractor, he shall be liable for the resulting damages. If the Contractor fails to take necessary action as required by such an emergency, the City may assign another Contractor or use his own forces to perform the emergency work. Costs or damages arising from the failure of the Contractor to act in an emergency may be deducted from the Contractor's request for payment.

O. **Sanitary Regulations:** The Contractor shall provide and maintain such sanitary accommodations for the use of his employees and those of his subcontractors as may be necessary to comply with the requirements and regulations of the local and State Department of Health. At a minimum, necessary sanitary conveniences for the use of the laborers on the work shall be erected and maintained by the Contractor, in such a manner and at such points as shall be approved by the Engineer/Architect. Their use shall be strictly enforced. In the Construction Manager format, the City may provide sanitary accommodations through the Construction Manager.

P. **Cutting, Patching, etc.:** Unless otherwise stated in the contract documents, the Contractor shall do all necessary cutting, fitting and patching of the Project that may be required to properly receive the work, to make its several parts join together properly, receive and provide for the work of various trades, and be received by the work of other contractors, or as required by drawings and specifications to complete the Project. After such cutting, he shall replace or restore or repair and make good all defective or patched work as required by the Engineer/Architect. He shall not cut, excavate or otherwise alter any work in any manner or by a method or methods that will endanger the Project, adjacent property, workmen, the public or the work of any other contractor. The Contractor shall check the location of all sleeves, openings, slots, etc., for the piping, ducts, breeching, conduits, louvers, grills, fans, etc., as they are laid out on the job.

Provisions for openings, holes and clearances through walls, beams, floors, ceilings and partitions shall be made and checked by the Contractor and/or his subcontractor in advance of constructing such parts of the Project and unnecessary, superfluous or dangerous cutting shall be avoided.

Pipes passing through concrete or masonry walls shall be protected by pipe sleeves two sizes larger than the pipe, plus its installation to provide free movement.

Under no condition shall structural, framing or other parts or members subjected to computed stress be cut or disturbed without the approval of the Engineer/Architect. Any plates, studs or joists, and/or rafters that are approved to be cut to execute necessary work shall be securely strapped and braced to restore their strength by approved methods.

Unless otherwise indicated in Supplemental Conditions, all road crossings and/or driveways cut by the Contractor during the performance of the Project shall be returned to service as soon as possible and replaced or repaired within seven (7) calendar days.

All major thoroughfares must be repaired the same day as cut. The Contractor shall be responsible for the safety and welfare of the traveling public while construction work is being done and until the City accepts the Project.

The Contractor will replace at his own expense, all pipe and accessories that may be broken, damaged, stolen or lost and all materials that may become damaged, lost, stolen or misused.

The Engineer/Architect's approval shall be obtained before cutting or drilling holes in concrete or masonry that tend to damage or weaken the load capacity.

Q. Trailers: With the approval of the City or Engineer/Architect, the Contractor may park trailers or other structures for housing men, tools, machinery and supplies, but they will be permitted only at approved places and their surroundings shall be maintained at all times in a sanitary and satisfactory manner by the Contractor. On or before the completion of the Project, all such trailers or structures shall be removed, unless the City authorizes their abandonment without removal, together with all rubbish and trash, at the expense of the Contractor.

R. Construction Staking: If necessary, the Engineer or the City will furnish initial lines and grades to establish the initial horizontal and vertical control points and define the beginning and ending points of the Project. The Contractor is responsible for engaging the services of a qualified Engineer or land surveyor to replace and/or re-establish in accordance with the construction plans and/or specs, all construction stakes that are disturbed, displaced or destroyed during construction.

If the Contractor finds any errors or discrepancies with the construction staking or the criteria upon which it is based, he/she shall promptly notify the Owner's representative.

S. Periodic Cleanup: The Contractor shall periodically, at least weekly, or as requested during the progress of the Project, clean up and remove from the premises, all refuse, rubbish, scrap materials and debris caused by its employees or its subcontractors resulting from its work, to the end that all times the premises are sanitary, safe, reasonably clean, orderly and workmanlike. Trash and combustible materials shall not be allowed to accumulate inside buildings or elsewhere on the premises. At no time shall any rubbish be thrown from window openings, except during renovations with adequate precautions and into proper receptacles. The Contractor shall comply with all municipal litter and construction site ordinances.

Before the Project is considered as complete, all rubbish created by or in connection with the construction must be removed by the Contractor and the premises left in a condition by the Contractor satisfactory to the City. Street, curbs, crosswalks, pavements, sidewalks, fences and other public and private property disturbed shall be

restored to their former condition or better, and final payment will be withheld until such work is finished by the Contractor.

Contractor shall conduct cleaning and disposal operations to comply with local ordinances and anti-pollution laws. No burning or burying of rubbish or waste materials is permitted on the Project site. The Contractor shall dispose of any hazardous material in a safe manner, off site, in accordance with applicable laws and regulations and shall not dispose of volatile or hazardous waste in storm or sanitary sewer drainage ditches, streams or waterways.

Contractor shall periodically wet down dry materials and rubbish to lay dust and prevent blowing dust; and shall provide adequate and approved containers for collection and disposal of waste material, debris and rubbish, removing grease, dust, dirt, stains, labels, fingerprints and other foreign materials from exposed and semi-exposed surfaces.

T. **Termite Control.** If the Project involves construction of a building or if otherwise specifically required by the City, then the Contractor shall provide soil treatment for termite control under all interior slabs on grade and foundation walls, and as herein specified. Contractor shall also comply with manufacturer's instructions and recommendations for work, including preparation of substrate and application and shall engage a professional pest control operator, licensed in accordance with regulations of governing authorities for application of soil treatment solution and doing business in the state where the Project is located for a minimum of five (5) years.

Contractor shall not apply soil treatment solution until excavating, filling and grading operations are completed, except as otherwise required in construction operations. To insure penetration, the soil treatment will not be applied to frozen or excessively wet soils or during inclement weather. Contractor shall comply with all handling and application instructions of the soil toxicant manufacturer. The type of materials to be used for soil poisoning shall first be submitted to the City for approval.

The soil treatment solution shall be an emulsible concentrate insecticide for dilution with water, specially formulated to prevent infestation by termites. Fuel oil will not be permitted as a dilutant.

Contractor shall strictly comply with the Environmental Protection Agency's (EPA) rules and regulations governing chemicals and their use. Only soil treatment solutions which are not injurious to planting shall be used. Other solutions may be used as recommended by Applicator when acceptable to the EPA, local governing authorities, and the Engineer/Architect.

Contractor shall comply with the following requirements when applying the soil treatment solution:

1. 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. Toxicants may be applied before placement of compacted fill under slabs if recommended by toxicant manufacturer.
2. Under slab-on-grade structures, treat soil before concrete slabs are placed using either power sprayer or tank type garden sprayer.
 - (A) Apply 4-gallons of chemical solution per 10 linear feet to soil in critical areas under slab, including entire inside perimeter inside of foundation walls, along both sides at interior partition walls, around plumbing pipes and electric conduit penetrating slab, and around interior column footings.
 - (B) Apply one gallon of chemical solution per 10 sq. ft. as an overall treatment under slab and attached slab areas where fill is soil or unwashed gravel. Apply 1-1/2 gallons of chemical solution to areas where fill is washed gravel or other coarse absorbent material.
 - (C) Apply 4 gallons of chemical solution per 10 linear feet of trench for each foot of depth from grade to footing, along outside edge of building. Dig a trench 6" to 8" wide along outside of foundation

to a depth of not less than 12". Punch holes to top of footing at not more than 12" o.c. and apply chemical solution. Mix chemical solution with the soil as it is being replaced in trench.

3. Post signs in areas of application warning workers that soil poisoning has been applied. Remove signs when areas are covered by other construction.
4. Reapply soil treatment solution to areas disturbed by subsequent excavation or other construction activities following application.

U. Erosion Control.

1. To the extent there has been issued by the City Engineer a land development permit in accordance with applicable ordinances, the Contractor shall conform to and abide by all terms and conditions of such permit.
2. Erosion control measures shall be performed on all disturbed areas in accordance with the BMPP included in the Notice of Intent and with Section 665, Alabama Highway Department Specifications. The CONTRACTOR will perform all erosion control measures necessary to prevent silt and soil from leaving construction area and entering private property or the "Waters of the State." Erosion control measures shall be in strict accordance with Alabama Non Point Source Management Program Document and EPA Storm Water Pollution Prevention for Construction Activities.
3. In accordance with Section 665 of Alabama Highway Department Specifications, temporary erosion control work shall involve the construction of temporary berms, dikes, drains, fences, dams, etc. with the use of temporary seeding, mulching, erosion control netting, hay bales, sandbags, check dams, etc., as necessary in order to prevent silt and soil from leaving rights-of-way and entering private property or from washing into drainage structures located on State or County rights-of-way. CONTRACTOR shall mow grassed areas as required during the construction phase of the contract.
4. Erosion control measures shall be maintained by the CONTRACTOR through the warranty period of the contract. If additional measures are required to correct problems which might occur, these shall be performed by the CONTRACTOR at no additional cost to the OWNER.
5. Materials used for erosion control measures shall be in accordance with Section 665.02 of Alabama Highway Department Specifications and shall include hay bales, sandbags, silt fencing rip rap, crushed stone, mulch or other materials necessary in order to accomplish erosion control.

V. Wastewater Containment and Management Plan. In accordance with ADEM Consent Order, NPDES permit NO. AL0022713, Tuscaloosa WWTP, Tuscaloosa County (125) dated September 8, 2009 and the "City of Tuscaloosa, Water and Sewer Department Engineering Report and Compliance Plan", December 2009; to the extent that construction activity by the Contractor involves any wastewater infrastructure or construction activities in close proximity to any wastewater infrastructure and/or to any City sanitary sewer assets the Contractor shall submit to the City Engineer, prior to commencing construction, a wastewater containment and management plan (the "Plan"). The Plan shall adequately address the means, methods and techniques to be employed by the Contractor for containing and transporting wastewater in a sanitary manner without, at any time, permitting the discharge of wastewater into the environment or creating the necessity of a State required sanitary sewer overflow report. The Plan shall be submitted by the Contractor to the Office of City Engineer for review and approval before commencing any construction activity. The City Engineer may waive the requirement of submitting a Plan if he/ she determines that the construction activity to which the Plan would relate does not involve any potential for the discharge of wastewater into the environment or creating the potential for the necessity of a State required sanitary sewer overflow report.

W. Environmental Clause/Covenant. Contractor shall not allow any toxic, hazardous or contaminated substances or gases (including, but not limited to, asbestos and raw materials which include hazardous constituents or any other similar substances or materials which are included under or regulated by any local, state, or federal law, rule or regulation pertaining to environmental regulations, contamination, clean-up or disclosure such as, without limitation, the Comprehensive Environmental Response Compensation and Liability Act of 1980 ("CERCLA"); the Clean Air Act (42 U.S.C. Sec. 7401 et seq.); the Clean Water Act (33 U.S.C. §1251 et seq.); the Resource Conservation and

Recovery Act (42 U.S.C. §6901 et seq.); and the Toxic Substances Control Act (42 U.S.C. §2601 et seq.) or state environmental clean-up or disclosure acts and statutes as all such acts and statutes exist now or are hereafter amended (such acts and statutes referred to herein as "Environmental Laws")(such substances or gases referred to herein as 'Hazardous Substances') to be stored, located, or discharged on the premises without specific prior written consent of the City. Contractor shall comply with all Environmental Laws affecting the premises. Contractor covenants to hold the City, its officers, agents and employees harmless from and against any loss, costs, damage or expenses (including attorney's fees and expenses) arising out of the presence of Hazardous Substances (as hereinbefore described) on or about the premises or the violation of any Environmental Laws with respect thereto, the occurrence of which Hazardous Substances on the premises or the violation of any Environmental Laws shall have arisen solely from the acts or omissions of Contractor, its subcontractors, agents, invitees and employees. This indemnity shall survive the termination of this contract and shall inure to the benefit of the City of Tuscaloosa, its successors and assigns.

ARTICLE V. INSURANCE, LIABILITY, ETC.

A. Contractor's Insurance (Generally):

1. Insurance Required. The Contractor shall not commence work under this contract until it has obtained all insurance required by the Contract documents and such insurance has been accepted by the City. The Contractor shall maintain the required insurance during the term of the contract including any extensions of the term.

Insurance shall be written in comprehensive form by insurance companies rated A- or better by A. M. BEST and shall protect the Contractor and the City against claims for injuries to members of the public (including City employees) or damages to property of others (including City property) arising out of any act of the Contractor or any of its agents, employees or subcontractors and shall cover both on-site and off-site operations under this contract and insurance coverage shall extend to any motor vehicles or other related equipment, irrespective of whether the same is owned, non-owned or hired.

The obtaining and maintaining by Contractor and subcontractors of the insurance required herein does not relieve the Contractor of any responsibilities, obligations or duties to the City pursuant to this contract.

2. Additional Insurance. The Contractor shall have an insurance professional review the Contractor's activities in regard to the performance of this contract and the Contractor shall obtain any further or additional insurance or greater limits as recommended by the insurance professional.

3. Insurance Limits. Neither the setting of insurance limits or requirements nor the acceptance or approval of the same by the City imply or represent that the limits or the insurance carrier is sufficient or that such insurance actually has been obtained, that being the responsibility of the Contractor.

4. Subcontractors. The Contractor shall require all subcontractors to take out and maintain the type of insurance required herein to the extent of their involvement in the Project so as to be adequate to protect against liability. In the event any work under this Contract is performed by a subcontractor(s), the Contractor shall remain responsible for any liability directly or indirectly arising out of the work performed under this Contract, regardless of whether or not such work is covered by the subcontractor's insurance. The Contractor shall not allow any subcontractor to commence work on the project until all similar insurance required of the subcontractor has been obtained. All subcontractors shall maintain required insurance during the term of the contract including any extensions of the term.

5. City's Right to Review Coverage. The City shall have the right to inspect and approve Contractor's insurance coverage herein required. Should the City deem it advisable to modify the coverage in any way, it shall so request of the Contractor in writing and should the Contractor fail to modify the coverage, then the City may pay the cost of any increased coverage or take credit for any decreases as may be appropriate. Review or acceptance of insurance by the City or representatives of the City shall not relieve or decrease the responsibility of the Contractor hereunder.

6. Waiver of Subrogation. To the extent that the Contractor is required to maintain insurance coverage for loss or damage to property or bodily injury, including Builders Risk All Risk insurance, the insurance must waive and the Contractor hereby waives subrogation of claims against the City, its officers, agents and employees.

7. City as Additional Insured. The City shall be named as additional insured , for ongoing and completed operations for up to two (2) years, on the Contractor's and any subcontractor's policies for any claims arising out of work performed under this Contract. The Contractor shall provide the City with a Certificate of Insurance naming the City as an additional insured using ISO for CG 2010 1185 (or a substitute form providing equivalent coverage) or on the combination of ISO forms CG 20 10 07 04 or CG 20 33 07 04 and CG 20 37 07 04 (or a substitute or ISO form providing equivalent coverage) naming the City as an additional insured , giving all parties a 30 notice of cancellation or intent not to renew the insurance, a waiver of subrogation and list any and all exclusions. The coverage available to the City as an additional insured shall not be less than \$1,000,000 Each Occurrence, \$2,000,000 General Aggregate (subject to a per project general aggregate applicable to the project,), \$2,000,000 Products/completed Operations Aggregate, and \$1,000,000 Personal and Advertising injury limits. Additional insured coverage shall apply as primary, non contributory, insurance with any other insurance afforded to the City and the Contractor.

8. Elevators, Hoist and Cranes. If the Contractor or a subcontractor will utilize in connection with the performance of the work pursuant to this contract an elevator, material hoist, crane or other equipment, or conveyor, then the Contractor shall take out and maintain or require the subcontractor to take out and maintain insurance that shall protect the Contractor and the City against claims for injuries to members of the public (including City employees) or damages to property of others (including City property) arising out of any act of the Contractor or any of its agents, employees or subcontractors resulting from the operation of such elevator, material hoist, crane or other equipment, or conveyor.

B. Insurance:

1. Workmen's Compensation Insurance: The Contractor shall take out and maintain during the term or any extensions of this contract Workmen's Compensation Insurance as required by Alabama law for all of its employees employed at the site of the Project or off-sites related to the Project and, in case any work is sublet, the Contractor shall require the subcontractor similarly to provide Workmen's Compensation Insurance 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 any work under this contract at the site of the Project is not protected under the Workmen's Compensation statute, the Contractor shall provide, and shall cause each subcontractor to provide, adequate accident insurance for the protection of its employees not otherwise protected.

Water or Navigational Exposure; Where work under this contract may trigger the requirement for Federal Longshoreman's and Harbor worker's Act and Federal Jones Act or insurance required by other applicable law or regulations, the Contractor shall obtain the same if required.

2. Comprehensive Automobile and Vehicle Liability Insurance: The Contractor shall maintain during the term or any extensions of this contract, comprehensive automobile and vehicle liability insurance. The limits of liability shall not be less than \$1,000,000 combined single limit or equivalent.

3. Commercial General Liability Insurance: The Contractor shall maintain during the term or any extensions of this contract, Commercial General Liability Insurance, including officers, agents and employees. The limits of liability shall not be less than \$1,000,000 Each Occurrence, \$2,000,000 General Aggregate (subject to a per project general aggregate applicable to the project), \$2,000,000 Products/Completed Operations Aggregate, and \$1,000,000 Personal and Advertising Injury Limits Combined Single Limit or equivalent.

4. Owner's Protective Insurance: For projects with a contract amount of \$500,000.00 or greater, an Owner's Protective Policy is required in the minimum amount of \$1,000,000 each occurrence. Provided; however, the City may require such insurance on projects of lesser amount if an insurance limit amount is stated herein.

5. Umbrella Excess Liability Over Primary Insurance: The Contractor shall take out and maintain during the term of this contract, and any extensions thereof, Umbrella Excess Liability Insurance. The minimum limits of coverage shall be as follows:

Each Occurrence	\$ <u>5,000,000</u>
Aggregate	\$ <u>5,000,000</u>

The coverage shall be over the required general liability insurance and automobile liability insurance as a minimum. There shall be no gaps or sublimit deductibles, etc.

6. Miscellaneous Insurance: The Contractor shall provide whatever insurance may be required of the City or the Contractor by permits or agreements, etc., with the railroad, highways, or other utilities. The Contractor shall familiarize himself with all insurance requirements contained in easements, permits, and agreements associated with this Project. The Contractor shall provide any Railroad Protective Liability and other General Liability Insurance in the amounts contained in the agreements, permits or easements or in greater amounts if higher limits are appropriate or required elsewhere. The Contractor shall bear the cost of all required insurance and shall include in his bid a sufficient amount to cover the cost of all required insurance. To the extent the City obtains permits or licenses for railroad or highway bores, crossings or other work involved in the Project, the Contractor shall obtain adequate insurance to protect itself and the City.

7. Builders Risk All Risk Insurance: To the extent applicable to the Project, the Contractor shall secure and maintain during the life of this Contract, Builder Risk All Risk Insurance coverage for 100 percent of the Contract Price. This insurance shall not exclude coverage for earthquake, landslide, tornado, flood, collapse or loss due to the result of faulty workmanship. Such insurance shall also provide for any damages caused by injury to, or destruction of, tangible property, including loss of use resulting therefrom, and shall pay all losses to the Contractor and the City as their interest may appear.

If this is a trade contract under a construction manager format, the provisions of this subsection shall not apply.

8. Proof of Carriage of Insurance: The Contractor shall furnish the City with satisfactory proof of carriage of the insurance required herein, in the form of an insurance certificate or if the City elects in the form of a policy. Insurance shall be in a form satisfactory to the City.

(A) The Contractor's and any subcontractor's general liability and automobile liability insurance shall endorse the Owner (City of Tuscaloosa), its officers, agents and employees, as additional insured's for any claims arising out of work performed under this contract.

(B) The Contractor's insurance endorsing the Owner and others as additional insured's shall be "primary" and non contributory as to such endorsed insured's.

(C) Cancellation: The certificate and policy, as the case may be, shall state that the City shall be given thirty (30) days' written notice of cancellation or any change in the insurance coverage.

(D) There shall be a statement that the Contractor and any subcontractors waive subrogation as to the City, its officers, agents, employees and Program Coordinator.

(E) There shall be a statement that full aggregate limits apply per job or contract.

(F) Agents verification of Contractor's insurance on form provided by the City or equivalent.

(G) Insurance shall contain no exclusions for x, c or u.

(G) Full aggregate limits must apply per job or contract.

C. **No Personal Liability of Public Officials:** In carrying out any of the provisions hereof in exercising any authority granted by the Contract, there will be no personal liability upon any public official.

D. **Indemnity:** To the maximum extent permitted by law, the Contractor shall save harmless, indemnify and defend the City, its officers, agents and employees from and against any and all claims and losses, cost, expense or liability including attorney's fees and litigation costs caused by, arising out of, resulting from, or occurring in connection with the performance of the work by the Contractor or any subcontractor, regardless of the fault, breach of contract, or negligence of the City, its officers, agents or employees excepting only such claims or losses that have been adjudicated to have been caused solely by the negligence of the City and regardless of whether or not the Contractor is or can be named a party in a litigation.

Contractor agrees to indemnify and/or reimburse the City for any fines, violations, charges, suits, or sums of money imposed by the Alabama Department of Environmental Management (ADEM), Environmental Protection Agency (EPA), or any administrative agency on the City of Tuscaloosa for any sewage or contaminate discharged or Wetlands regulations violation as a result of or arising out of the work by the Contractor pursuant to this agreement.

E. **Errors and Omissions.** The Contractor does agree to release and hold harmless the City of Tuscaloosa or any of its officers, agents and employees and its Program Coordinator from any damages claimed by the Contractor or subcontractors resulting from or attributable in whole or in part to, errors in or omissions of the plans and specifications, including final drawings of the Engineer/Architect or other design professionals. As to plans, specifications or designs prepared by independent design professionals, the parties agree that any City review or approval thereof was only for overall suitability, maintenance and usability and there are no express or implied warranties by the City as to the adequacy, accuracy, correctness, or code compliance thereof.

F. **Exclusion of Contractor Claims:** In performing its obligations, the Engineer/Architect and its consultants may cause expense for the Contractor or its subcontractors and equipment or material suppliers. However, those parties and their sureties shall maintain no direct action against the City or its officers, employees, agents and program coordinator for any claim arising out of, in connection with, or resulting from the Engineering services performed or required to be performed where such services are performed in good faith to protect the City or the Public.

G. **Inadequate Surety/Insurance.** It is further mutually agreed between the parties hereto that if, at any time after the execution of this agreement, any of the surety bonds of the Contractor or subcontractors relating to the Project for its faithful performance shall be deemed by the City to be unsatisfactory, or if for any reason such bond(s) ceases to be adequate to cover the performance of the work or the surety ceases to do business by agent in Tuscaloosa County, Alabama, the Contractor shall, at its expense, within five (5) days after the receipt of notice from the City so to do, furnish an additional bond or bonds in such form and amount and with such surety or sureties as shall be satisfactory to the City. In such event, no further payment to the Contractor shall be deemed to be due under this agreement until such new or additional security for the faithful performance of the work shall be furnished in manner and form satisfactory to the City.

H. **Changes.** When changes in the scope of work by written order or change orders aggregate in amount equal to 10 percent of the total contract, including the change order or change orders, the insurance coverage included under this heading shall be increased accordingly by the Contractor. Proof of coverage shall be established by endorsement to the original policy or by re-issue of the original policy to include the added coverage, or in accordance with any other acceptable policy with the insuring company for increasing the coverage.

ARTICLE VI. OBSERVATION OF THE PROJECT

A. **Generally:** The Contractor shall furnish the Engineer/Architect and/or the City's observer with every reasonable facility for ascertaining whether or not the work performed is in accordance with the requirements and intent of the Specifications and Contract Documents. No work shall be done without suitable inspection by the Engineer/Architect's Inspector or the City's observer. Payment for work or failure to reject any defective work shall not in any way prevent later rejection when such defect is discovered, nor obligate the City to final acceptance. All work done when not in accordance with the Plans, specifications and contract will be rejected and, without cost to the City, shall immediately be removed and other work done in accordance therewith by the Contractor. If the Contractor fails to remove the work as above ordered, then the Engineer/Architect shall have the right and authority to stop the Contractor and his work at once and the City may correct the work as herein provided at the cost and expense of the Contractor.

Inspection is not acceptance and shall not constitute acceptance by the City.

The work shall also be subject to inspection by representatives of the City of Tuscaloosa Building Inspection Department.

B. **Observation of the Project:** The Engineer/Architect, the City and its observers, agents, any agency having jurisdiction, and their representatives shall have access at all times to the Project for inspection whenever it is in preparation or progress, and the Contractor shall provide proper facilities for such access and inspection. The City or the Engineer/Architect may appoint or assign observers, with designated duties and restricted authority, to inspect the Project as may be directed, or to make special observations requested in advance by the Contractor, and to report progress of the Project, and manner of procedure, quality of the material and workmanship, and compliance with the Contract Documents.

Inspection or observation is not acceptance and shall not constitute acceptance by the City.

All materials, workmanship, equipment, processes of manufacture, and methods of construction, shall be subject to inspection, examination, and test by such persons at any and all places where such manufacture and/or construction are being carried on. The Engineer/Architect shall have the right to reject material, workmanship and/or equipment that are defective or otherwise not in accordance with the drawings and Specifications and require its correction by the Contractor. Rejected workmanship shall be satisfactorily corrected, and rejected material shall be satisfactorily replaced with proper material by the Contractor without charge therefor, and the Contractor shall promptly segregate and remove the rejected material from the premises. Provided; however, neither the presence or absence of such observers nor the giving or failure to give such advice, direction or instruction shall in any manner relieve the Contractor from any contract requirement.

Upon rejection of material and/or workmanship by the Engineer/Architect or the City, there may be occasion where such deficiencies may be corrected more economically and timely through modification of the design versus removal and replacement. In such instances, the Engineer/Architect shall provide design services on behalf of the City necessary for analysis and correction of the rejected work. Costs associated with hourly fees for these professional services shall be paid by the City and deducted from payment to the Contractor based on the actual costs incurred. Prior to beginning any analysis and accrual of associated professional service fees, the Engineer/Architect shall provide the Contractor and City notice in writing of the intent to begin, summary of the scope of work, estimated time to complete, and estimated total fees. Any costs associated with corrective work performed by the Contractor to remedy such deficiencies shall be the sole responsibility of the Contractor.

Neither the City observers nor the Engineer/Architect, will be authorized to revoke, alter, relax, or waive any requirements of the Contract Documents; to issue instructions contrary to the drawings and Specifications; nor shall they supervise and direct work for the Contractor, nor unreasonably interfere with the Contractor's operations beyond the extent necessary to make certain that the Project is being carried out according to the contract requirements.

Any advice which they may give the Contractor shall not be construed as binding the City in any way, nor as releasing the Contractor from any of the contract requirements.

If the Contractor considers any work demanded of it to be outside the contract requirements, or any ruling of the Engineer/Architect or an inspector to be unfair, it may immediately, upon such work being demanded or ruling made, request written instructions from the Engineer/Architect, or inspector, or within ten days file an appeal to the Engineer/Architect or the City, stating clearly and in detail the basis of its objections. However, pending the decision on such appeal no work shall be done in disregard of the rulings of the Engineer/Architect or inspector or his instructions on items of work affected by such appeal.

The Contractor shall furnish promptly, without extra compensation, all reasonable facilities, labor, and material necessary for safe and convenient access, inspection, and tests that may be required by the Engineer/Architect.

C. **Authority and Duties of Observers:** If City or consultant inspectors, whether for the Engineer/Architect or Construction Manager, are being utilized, they shall be authorized and permitted to inspect all work done. The Inspector shall not be authorized to alter or waive any requirements of the Specifications. He shall have authority to call the attention of the Contractor to failure of the work to conform to the specifications and Contract. He may suspend the Project until any questions at issue can be referred to and decided by the Engineer/Architect or the City.

Neither the Engineer/Architect, Inspector, the City or other representatives for the City shall be responsible in any way for construction means, methods or techniques, nor for the safety of the construction work, progress, or employees of the Contractor or any subcontractors, except as set forth in the Construction Manager contract, if applicable.

The presence of the Inspector shall not in any manner lessen the responsibility of the Contractor pursuant to this agreement.

D. **Defective Work/Correction of Work by the City:** The inspection of the work shall not relieve the Contractor of any of its obligations to fulfill its contract and defective work shall be made good, notwithstanding that such work has been previously inspected by the Engineer/Architect and accepted or estimated for payment. The failure of the Engineer/Architect or inspector to condemn improper workmanship shall not be considered as a waiver of any defect, whether known at the time or discovered later, or as preventing the City at any time subsequently from recovering damages for work actually defective. All work shall be guaranteed by the Contractor against defects in workmanship for a period of one year from date of final payment.

Upon failure and/or neglect by the Contractor to promptly prosecute or perform the work in accordance with the contract documents, including any requirements with respect to the construction schedule, plans or specifications, the City may, without prejudice to any other remedy it may have, correct such deficiencies and may deduct the actual cost thereof from payment, then or thereafter due to the Contractor.

E. **Disagreement:** Should any disagreement or difference arise as to the estimated quantities or classifications or as to the meaning of the drawings or specifications, or any point concerning the character, or acceptability or nature of the several kinds of work, or construction thereof, the decision of the Engineer/Architect shall be final and conclusive and binding on the Contractor.

F. **Stop Work Orders:** During unseasonable weather all work must stop when the Engineer/Architect so directs and all work must be suitably protected by Contractor at all times. However, the Engineer/Architect shall be under no obligation to stop work on the Project. If the Project is stopped, the Contractor shall not be entitled to extra compensation for delays or problems associated with the stoppage.

G. **Progress Meetings:** The Contractor shall conduct regular progress meetings during the course of the Project at least once a month or more often if requested by the City or Engineer/Architect. The meetings shall be held at a site convenient to all parties and if a site cannot be agreed upon, the City will designate a site.

The Contractor or designated representative, the Contractor's Superintendent, all subcontractors, engineers, inspectors, and the City's representative shall attend.

The Contractor shall keep accurate written minutes of the meetings and forward copies thereof to the Engineer/Architect and the City's representative before the next scheduled meeting.

If a trade contract, progress meetings will be conducted by the Construction Manager, who will keep minutes. All trade contractors shall attend unless excused by the Construction Manager.

ARTICLE VII. PROJECT COMPLETION

A. **Substantial Completion:** "Substantial completion" shall be that degree of completion of the Project or a defined portion of the Project, as evidenced by the Engineer/Architect's written notice of Substantial Completion, sufficient to provide the City, at its discretion, the full-time use of the Project or defined portion of the work for the purposes for which it was intended. "Substantial Completion" of an operating facility or operating component of the Project shall be that degree of completion that has provided a minimum of seven (7) continuous days of successful, trouble-free operation in a "fully automatic" manner acceptable to the City and Engineer/Architect and with all redundant systems fully operational. All equipment contained in the Project, plus all other components necessary to enable the owner to operate the facility in the manner that was intended, shall be complete on the substantial completion date.

When the Contractor considers that the Project, or where acceptable to the City, a designated portion thereof is substantially complete, the Contractor shall prepare and submit to the Engineer/Architect a list of items to be completed or corrected and request an inspection for Substantial Completion. The failure by the Contractor to include any items on such list does not alter the responsibility of the Contractor to complete all work in accordance with the Contract Documents. After inspection and/or if an operating facility, after a minimum of seven (7) continuous days of successful, trouble free operation has been achieved during startup, the Engineer/Architect may, at his sole discretion, issue a written notice of substantial completion for the purpose of establishing the starting date for specific equipment guarantees or warranties, and to establish the date that the City will assume the responsibility for the cost of operating such equipment.

Said notice shall not be considered as final acceptance of any portion of the Project or relieve the Contractor from completing the remaining work, including any remaining performance or acceptance testing, within the specified time and in full compliance with the Contract Documents. Specifically, the issuance of a written notice of Substantial Completion shall not relieve the Contractor of his obligation to promptly remedy any omissions and latent or unnoticed defects in the Project covered by the written Notice of Substantial Completion.

B. **Final Inspection:** Upon notice from the Contractor that its work is complete, the Engineer/Architect and/or other representatives of the City shall make a final inspection of the work or Project and conduct test or tests if applicable. The Engineer/Architect shall notify the Contractor of all apparent and/or visible instances where the Project fails to comply with the plans and specifications and contract documents, as well as any defects he may discover (punch list). The Contractor shall immediately make such alterations as are necessary to make the Project comply with the plans and specifications and to the satisfaction of the Engineer/Architect.

Upon completion of all such repairs in a satisfactory manner, and when the Engineer/Architect has determined that the work or Project is acceptable under the contract, including this provision and after publication of final completion and all other requirements of final payment as provided for in this agreement, then he shall issue a final certificate of payment to the City stating that the balance is due the Contractor, less such amounts as may have been withheld by the City from time to time as provided in the contract documents. In recommending to the City that it make such final payment to the Contractor, the Engineer/Architect shall also issue a certificate of final acceptance wherein he shall recommend to the City that it accept the Project and/or work as final and complete pursuant to the contract documents.

Verification, approval, inspection, final inspection, issuance of final acceptance, issuance of final certificate of payment, action or approval by the City upon the final certificate of payment or final acceptance shall not in any way relieve the Contractor of responsibility for faulty materials or workmanship.

All warranty or guarantee periods shall commence and start to run from the date of substantial completion.

C. **"As Built" Drawings:** Unless waived by the City representative, the Contractor must provide to the City a set of "as built" drawings acceptable to the City as a component part of the Project prior to final payment.

D. **Final Cleanup:** Before final completion and final acceptance, the Contractor shall remove from the City's property or rights-of-ways and from all public and private property, all tools, scaffolding, false work, temporary structures and/or utilities, including the foundations thereof (except such as the City permits in writing to remain); rubbish and waste materials resulting from its operation or caused by its employees; and shall remove all surplus materials, leaving the site clean and true to line and grade, and the Project in a safe and clean condition ready for use and operation. In addition to the above, the Contractor shall be responsible for the following special cleaning for all trades as the Project shall have been completed:

1. Cleaning of all painted, enameled, stained or baked enamel work: removal of all marks, stains, fingerprints and splatters from such surfaces.
2. Cleaning of all glass: cleaning and removing of all stickers, labels, stains and paint from all glass and the washing and polishing of the same on interior and exterior.
3. Cleaning or polishing of all hardware.
4. Cleaning all tile, floor finishing of all kinds; removal of all splatters, stains, paint, dirt, and dust, the washing and polishing of all floors as recommended by the manufacturer or required by the Engineer/Architect.
5. Cleaning of all manufactured articles, materials, fixtures, appliances and equipment; removal of all stickers, rust stains, labels (except instructional and/or safety labels) and temporary covers and cleaning and conditioning of all manufactured articles, materials, fixtures, appliances, electrical, heating and air conditioning equipment as recommended or directed by the manufacturers, unless otherwise required by the Engineer/Architect; blowing out or flushing out of all foreign matter from all dust pockets, piping, tanks, pumps, fans, motors, devices, switches, panels, fixtures, boilers, similar features; and freeing identification plates on all equipment or excess paint and the polishing thereof.

In the case of failure to comply with the above requirements for any part of the Project within the time specified by the Engineer/Architect, he may cause the work to be done and deduct the cost thereof from the contract price on the next or succeeding application for payment, or in the event that the cost exceeds the balance due the Contractor, bill the Contractor for the excess.

E. **Notice of Completion:** The Contractor shall, immediately after the completion of the Project and acceptance by the Owner as provided for herein, give notice as required by Ala. Code §39-1-1(f) by an advertisement in some newspaper of general circulation published within the city or county wherein the Project has been done for a period of four (4) successive weeks. The advertisement shall advise interested parties to contact both the Contractor and the specific City representative. The City's representative shall be named along with his proper mailing address. In no instance shall a final payment be made upon the contract until the expiration of thirty (30) days after the completion of the notice. Proof of publication of said notice shall be made by the Contractor to the City of Tuscaloosa by affidavit of the Publisher and a printed copy of the notice published.

Provided, however, that the requirements hereinabove stated for notice and advertisement shall not apply to contractors performing contracts of less than Fifty Thousand Dollars (\$50,000.00) in amount and the governing body of the City of Tuscaloosa so as to expedite final payment, shall cause notice of final completion of such contract to be published one time in Tuscaloosa County and shall post notice of final completion on the City of Tuscaloosa's bulletin board for one (1) week and shall require the Contractor to certify under oath that all bills have been paid in full. Final settlement with such Contractor may be made at any time after the notice shall have been posted for one (1) entire week.

NOTE: When maintenance periods are included in the contract for highways, bridges or similar structures, such periods shall be considered component parts of the contract.

F. **Final Payment:** Upon completion of the Project by the Contractor and acceptance by the City's representatives of all work required of the Contractor for the Project, but not until thirty (30) days after completion of the notice, the amount due the Contractor pursuant to the Contract Documents shall be paid upon the presentation by the Contractor to the City's representative of the following:

1. A properly executed and duly certified voucher for payment, verified by architect, engineer or other City representative, including therewith evidence that all payrolls and all amounts due for labor and materials, other than claims for damages due to tort, have been fully paid and satisfied and there are no outstanding claims or demands associated with the work on the Project.
2. A release of all claims and claims of lien against the City from the Contractor and all major subcontractors (the City may waive the requirement for subcontractor releases) arising under and by virtue of the contract, on the form attached, duly executed by the Contractor and with the consent of the surety. The Contractor may specifically except claims of the Contractor from the operation of the release if specifically excepted therefrom in stated amounts and the reason therefor.
The Contractor may with the consent of the City representative, if any subcontractor refuses to furnish such a release, furnish a bond with surety satisfactory to the City representative to indemnify against such claims.
3. Proof of publication of notice of completion including affidavit of publisher and a printed copy of the notice so published, as provided by law.
4. In accordance with Ala. Code §39-2-12(c), a non-resident contractor shall satisfy the City that he or she has paid all taxes due and payable to the State, the City and all applicable political subdivisions.

G. **Acceptance of Final Payment Constitutes Release:** The acceptance by the Contractor of the final payment shall release the City, the Engineer/Architect, as representatives of the City, and their officers, employees, agents, and subconsultants from all claims and all liability to the Contractor for all things done or furnished in connection with the Project, and every act of the City and others relating to or arising out of the work except claims previously made in writing and still unsettled. No payment, however, final or otherwise, shall operate to release the Contractor or his Sureties from obligations under this Contract and the Performance Bond, Payment Bond, and other bonds, warranties and guarantees as herein provided.

ARTICLE VIII. WARRANTY AND GUARANTEES

A. **Warranty and Guarantee:**

1. Warranty: The Contractor warrants to the City and the Engineer/Architect that all materials and equipment furnished under this Contract will be new unless otherwise specified and that all work, materials and equipment will be of good quality, free from fault and defects and in conformance with the contract documents. The work must be safe, substantial and durable construction in all respects. All work, materials and equipment not conforming to these requirements, including substitutions not properly approved and authorized, may be considered defective. Warranties shall commence to run from the date of substantial completion.

The work furnished must be of first quality and the workmanship must be the best obtainable in the various trades. The Contractor hereby guarantees the Project and the work on the Project against defective materials or faulty workmanship for a minimum of one (1) year after final payment by the City and shall replace or repair any defective materials or equipment or faulty workmanship during the period of guarantee at no cost to the City.

2. Guarantee: If, within the designated warranty period or if not designated, within one (1) year from the date of substantial completion, any of the work, materials or equipment is found to be defective or not in accordance with the contract documents, the Contractor shall correct it promptly after receipt of written notice from the City to do so,

unless the City has previously specifically given the Contractor a written acceptance of such specific condition. This obligation shall survive termination of the Contract. The City shall give such notice promptly after discovery of the condition.

3. Roofing Guarantee: If the Project involves a roof on a building or other structure, then the Contractor shall execute and provide the Roofing Guarantee in the form attached hereto. The guarantee shall be delivered to the City and Engineer/Architect prior to final payment.

4. Termite Warranty: If the Project involves termite treatment as required in Article IV, then the Contractor shall furnish to the City a written warranty certifying that the applied soil poisoning treatment will prevent the infestation of subterranean termites and that if subterranean termite activity is discovered during the warranty period, Contractor shall re-treat the soil and repair or replace any damage caused by termite infestation. The warranty shall be for a period of five (5) years from the date of treatment signed by Applicator and Contractor.

B. Correction of Defective Work During Warranty/Guarantee Period: The Contractor hereby agrees to make, at his own expense and no cost to the City, all repairs or replacements necessitated by defects in materials or workmanship, provided under the terms of this Contract, and pay for any damage to other works resulting from such defects, which become evident within 1 year after the date of substantial completion unless substantial completion is established by the Engineer/Architect only for specified items of equipment, or within such longer period of time as may be prescribed by law or by the terms of any applicable special guarantee required by the Contract Documents unless the City has previously given the Contractor a written acceptance of such defects. The Contractor shall promptly correct such defects upon receipt of a written notice from the City to do so. This obligation shall survive the termination of the Contract.

Unremedied defects identified for correction during the warranty period described herein before, but remaining after its expiration, shall be considered as part of the obligations of the warranty. Defects in material, workmanship, or equipment which are remedied as a result of obligations of the warranty shall subject the remedied portion of the Project to an extended warranty period of 1 year after the defect has been remedied.

Repetitive malfunction of equipment shall be cause for equipment replacement and an extension of the guarantee period for the equipment to a date 1 year following acceptable replacement.

The Contractor further assumes responsibility for a similar guarantee for all work and materials provided by subcontractors or manufacturers of packaged equipment components.

The Contractor also agrees to hold the City and the Engineer/Architect and employees harmless from liability or damages, including the Engineer/Architect's and attorneys' fees, and cost and expenses of litigation of any kind arising from damage due to said defects. The Contractor shall make all repairs and replacements promptly upon receipt of written order for same from the City. If the Contractor fails to make the repairs and replacements promptly, or in an emergency where delay would cause serious risk, or loss, or damage, the City may have the defective work corrected or the rejected work removed and replaced, and the Contractor and his Surety shall be liable for the cost thereof. The Contractor during the warranty period shall repair/replace as rapidly as possible any and all equipment, materials, etc., which are found to be defective. Should any items not be repaired/replaced within thirty (30) days from the time it is reported to the Contractor by the City, then the warranty period shall be extended on that item for a period equal to the time that the item has remained defective, incomplete, or inoperable as determined by the City. The Contractor must certify that the item has been corrected.

The City's rights under this Article shall be in addition to, and not a limitation of, any other rights and remedies available by law.

ARTICLE IX. LAWS, PERMITS, ETC.

A. Laws and Regulations/Royalties, Patents, Copyrights and Permits and Rights-of-Way: The Contractor shall comply with and keep itself fully informed of all laws, ordinances and regulations of federal, state, City and county in any manner effecting those engaged or employed in the Project, or the materials used in the Project, or in any way affecting the conduct of the Project, and of all orders and decrees of bodies or tribunals having any jurisdiction or authority over same. The Contractor shall possess all permits and licenses required by applicable law, rule or regulation for the performance of the Project. If any discrepancy or inconsistency should be discovered in this contract, or in the drawings or specifications herein referred to, in relation to any law, ordinance, regulation, order or decree, it shall forthwith report the same in writing to the Engineer/Architect. It shall at all times, itself, observe and comply with all such existing and future laws, ordinances and regulations.

The Contractor shall protect and indemnify the City, Engineer/Architect, and their respective employees, officers, subconsultants, and agents against any claim or liability arising from or based on the violation of any such laws, ordinances, or regulations. All permits, licenses, and inspection fees necessary for prosecution and completion of the Project shall be secured and paid for by the Contractor, unless otherwise specified.

The Contractor shall obtain and pay for all licenses and permits and shall pay all fees and charges for connection to outside service and the use of property required for the execution and completion of the Project.

The Contractor shall give all notices and comply with all laws, ordinances, rules, regulations, and code requirements applicable in or bearing on the conduct of the Project unless in conflict with contract requirements. If the Contractor ascertains at any time that any requirements of the Contract is at variance with applicable laws, ordinances, regulations, or building code requirements, it shall promptly notify the Engineer/Architect and any necessary adjustment of the Contract will be made as herein specified under change in orders.

The Contractor shall pay all applicable federal, state and local taxes and assessments on the Project. Wherever the law of the place of building requires a special tax, consumer, use, occupation, or other tax, the Contractor shall pay such tax.

The Contractor shall pay all royalties and license fees. The Contractor shall hold and save the City and its agents and employees harmless from liability of any nature or kind, including costs and expenses, for or on account of any patented or unpatented invention, process, article or appliance manufactured or used in the performance of the contract, including its use by the City.

To the extent that the Project has not been permitted or registered by the Engineer or City, the Contractor shall register or obtain any and all necessary National Pollutant Discharge Elimination System (NPDES) Permits required by USEPA or the Alabama Department of Environmental Management (ADEM) as well as any applicable storm water permits or registration for the construction of the improvements specified in the Contract Documents. The Contractor shall abide by all regulations and conditions relative to the permit or registration and attachments to the permit or registration, including but not limited to sampling and monitoring. The Contractor shall fulfill for the City all the requirements made upon the City by the permit(s) or registration.

The Contractor shall be fully responsible for all aspects of erosion and sediment control. The Contractor shall utilize whatever measures are necessary to prevent pollution or siltation due to his activities. As a minimum, the Contractor shall strictly comply with the erosion control methods referenced in the Alabama Soil and Water Conservation Committee "Alabama Handbook for Erosion Control, Sediment Control, and Stormwater Management on Construction Sites and Urban Areas," latest edition (referred to as the "Alabama Handbook").

If the Contractor has information that any process, article or item specified or delineated by the Engineer/Architect is an infringement of a patent or a copyright, it shall promptly give such information to the Engineer/Architect.

B. Alabama Department of Transportation Rights-of-Way: If any portion of the Project involves work upon State right-of-way, the Contractor agrees to provide the Alabama Department of Transportation with a bond or certified check in the amount required, made payable to the Alabama Department of Transportation, to guarantee the faithful performance of the provisions of a permit and to guarantee that the Contractor shall maintain the work in a manner suitable to the Alabama Department of Transportation for a period of one (1) year. The Alabama Department of Transportation Bond Form must be used. At the end of one (1) year from the completion of this work, the Department of Transportation will return the certified check or bond to the applicant provided all provisions of this permit have been complied with. Otherwise, the Department of Transportation shall apply the certified check or bond to the cost of repairing the rights-of-way with State forces.

C. Tuscaloosa County Right-of-Way: If any portion of the Project involves work upon County right-of-way, the Contractor agrees to execute an application and file with Tuscaloosa County a bond or certified check in the amount required, made payable to Tuscaloosa County to guarantee the faithful performance of this provision of this work suitable to the County for a period of one (1) year. At the end of one year from the completion of this work, the County will return the certified check or bond to the applicant provided all provisions of this permit have been complied with. Otherwise, the County shall apply the certified check or bond on the cost of repairing the right-of-way with the County forces.

D. Storm Water Permit and Monitoring:

1. To the extent that the Project has not been permitted or registered by the Engineer or the City, and the Project is defined as an NPDES Construction Site per ADEM Admin. Code Chapter 335-6-12 (the Rule), the Contractor shall submit to the Alabama Department of Environmental Management (ADEM) a Notice of Registration (NOR) under the Rule for Storm Water Discharges during construction activities.
The Contractor shall strictly adhere to all requirements of the NOR and the rule regardless of which party has obtained coverage.
2. Compliance with all provisions of ADEM Admin. Code Chapter 335-6-12 and this registration is required, including but not limited to, the preparation and implementation of a Construction Best Management Practices Plan (CBMPP) and any other plans as may be required, the regular maintenance of the Best Management Practices (BMPs) to the maximum extent practicable and the submittal of required reports. As required by the Rule, the Contractor shall retain a Qualified Credentialed Professional (QCP) to prepare the CBMPP and to certify that it was prepared in accordance with the requirements of the "Alabama Handbook" and the Rule.
3. This registration neither precludes nor negates an operator's responsibility or liability to apply for, obtain, or comply with other ADEM, federal, state, or local government permits, certifications, licenses, or other approvals.
4. The Contractor, unless application for registration has already been made, will be furnished a Storm Water NOR application package when the contract is awarded. The Storm Water NOR application package will include the following:
 - a. Typical transmittal letter to ADEM.
 - b. NOR applications filled out with Project information.
 - c. Project area map.
 - d. Other data as required by the NOR for Tier 1 waters if applicable.
5. The Contractor will complete or furnish the following items and submit to ADEM within five working days of the receipt of the NOR application provided by the Owner.
 - a. Information as outlined in the typical letter of transmittal, to the address indicated on the letter of transmittal, by registered mail or hand deliver.
 - b. The "Alabama Department of Environmental Management (ADEM), Field Operations Division Storm Water Program" Notice of Registration (NOR); NOR shall be signed by a responsible official who is the operator, owner, the sole proprietor of a sole proprietorship,

a general/controller member or partner, or an executive officer of at least the level of vice-president for a corporation. Additionally, the QCP is required to sign the CBMPP certification part of the NOR.

- c. Determine applicable fee per ADEM Fee Schedule F and make check payable to: Alabama Department of Environmental Management for the NOR and submit to the Alabama Department of Environmental Management with the NOR application.
6. Application for the Storm Water Permit shall be made by the Contractor no later than five working days after receipt of application provided by Owner. The Contractor shall not commence any construction activities until ADEM has issued the authorization number for the Project.
7.
 - a. Payment will be made to the Contractor for obtaining the storm water NOR as specified herein for the lump sum amount as shown in the bid schedule. If there is no line item for registration, obtaining the NOR shall be considered a subsidiary obligation of mobilization.
 - b. Individual erosion and sediment control items shall be paid for at the unit prices as shown in the bid schedule. Routine inspections will be performed by the Owner's representative or Engineer to verify compliance with the CBMPP and the Rule shall be the Contractor's responsibility and shall be incidental to the storm water registration.
 - c. If no individual erosion and sediment control items are included in the bid schedule the cost of these items shall be incidental to the lump sum amount as shown in the bid schedule for Storm Water Monitoring and Temporary Erosion and Sediment Control and payment shall be made pro rata as the Project progresses.

E. The Contractor shall perform all work in compliance with and as required by any State, Federal or Local registration, permit or license, the terms and conditions of which are adopted herein by reference. The Contractor agrees to indemnify and hold harmless the City, Engineer, and their respective officers, agents and employees from any fines, penalties, damages, claims, liability or judgment arising out of or in any manner associated with the Contractor's failure to perform work on the Project in strict accordance with all storm water registration, permit or license requirements.

ARTICLE X. MISCELLANEOUS CLAUSES

A. Notice and Service Thereof:

1. All notices, demands, requests, change orders, instructions, approvals and claims shall be in writing. Unless expressly otherwise provided elsewhere in this agreement, any election, notice or other communication required or permitted to be given under this agreement shall be in writing and deemed to have been duly given if provided in accordance with the provisions hereof.
2. Any notice to or demand upon the Contractor shall be in writing and shall be sufficiently given if addressed to the Contractor at the address stated herein and deposited in the United States mail in a sealed envelope with sufficient postage prepaid or delivered with charges prepaid to any telegraph company for transmission to the Contractor at such address. It shall also be sufficient if such notice or demand be served upon the Contractor personally or its local representative in charge of the Project or delivered at his local office. The Contractor shall, from time to time, designate to the City in writing any change of address to which such notice or demand shall be sent.
3. Any notice to or demand upon the City shall be in writing and shall be sufficiently given if delivered to the office of the City's representative or if addressed to the City representative and deposited in the United States mail in a sealed envelope with sufficient postage prepaid or delivered with charges prepaid to any telegraph company for transmission to such representative of the City.

B. City Representative: The City's representative on this Project is hereby designated as Craig Williams – Burk-Kleinpeter, Inc. and whose address is 600 Lurleen Wallace Blvd., Suite 180, Tuscaloosa, AL. All references to Engineer or Architect shall be to the City representative if no Engineer or Architect is involved in the Project.

With a copy to: Glenda Webb, Esquire, City Attorney, Office of the City Attorney
City of Tuscaloosa, Post Office Box 2089, Tuscaloosa, Alabama 35403-2089
Telephone: (205) 248-5140, Facsimile: (205) 349-0328

C. Contractor Representative: The Contractor's representative on this Project is hereby designated as _____ and whose address is _____.

D. Capacity: Each party to this agreement represents and warrants to the other as follows:

1. That it is an individual of the age of majority or otherwise a legal entity duly organized and in good standing pursuant to all applicable laws, rules and regulations.
2. That each has full power and capacity to enter into this agreement, to perform and to conclude the same including the capacity, to the extent applicable, to grant, convey and/or transfer; areas, assets, facilities, properties, (both real and personal), permits, consents and authorizations and/or the full power and right to acquire and accept the same.
3. That to the extent required, each party has obtained the necessary approval of its governing body or board and a resolution or other binding act has been duly and properly enacted by such governing body or board authorizing this agreement and said approval has been reduced to writing and certified or attested by the appropriate official of the party.
4. That each party has duly authorized and empowered a representative to execute this agreement on their respective behalf and the execution of this agreement by such representative fully and completely binds the party to the terms and conditions hereof.
5. That absent fraud, the execution of this agreement by a representative of the party shall constitute a certification that all such authorizations for execution exist and have been performed and the other party shall be entitled to rely upon the same. To the extent a party is a partnership, limited liability company or joint venture, the execution of this agreement by any member thereof shall bind the party and to the extent that the execution of agreement is limited to a manager, managing partner or specific member then the person so executing this agreement is duly authorized to act in such capacity for the party.
6. That each party represents and warrants to the other that there is no litigation, claim or administrative action threatened or pending or other proceedings to its knowledge against it which would have an adverse impact upon this transaction or upon either's ability to conclude the transaction or perform pursuant to the terms and conditions of this agreement.
7. That each party has obtained any and all required permits, approvals and/or authorizations from third parties to enable it to fully perform pursuant to this agreement.
8. Under the provisions of the Constitution and laws of the State of Alabama, each party has the power to consummate the transactions contemplated by this agreement;
9. Each party represents and warrants that the execution and delivery of this agreement and the consummation of the transactions contemplated herein will not conflict with, be in violation of, or constitute (upon notice or lapse of time, or both) a default under the laws of the State of Alabama, any resolution, agreement, or other contract agreement, or instrument to which a party is subject, or any resolution, order, rule, regulation, writ, injunction, decree or judgment of any governmental authority or court having jurisdiction over the party.
10. This agreement constitutes the legal, valid and binding obligation of each party and is enforceable against each party in accordance with its terms, except in so far as the enforceability thereof may be limited by:

- (a) Bankruptcy, insolvency or other similar laws affecting the enforcement of creditors' rights
 - (b) General principles of equity, regardless of whether such enforceability is considered as a proceeding at equity or at law.
11. Neither party will enter into any agreement to do anything prohibited in this agreement or enter into any agreement or take any action which would in any way impair the ability of the other party to faithfully and fully perform its obligations hereunder.
12. Under the provisions of the Constitution and laws of the State of Alabama, each party has the power to consummate the transactions contemplated by this agreement.

E. Ownership of Contract Documents: The Contract Documents, and copies of parts thereof, are furnished and owned either by the City or the Engineer/Architect. All portions of the Contract Documents, and copies of parts thereof, are the instruments of service for this Project. They are not to be used on other work and are to be returned to the City on request at the completion of the Project. Any reuse of these materials without specific written verification or adaptation by the City will be at the risk of the user and without liability or legal expense to the City or Engineer/Architect. Such user shall hold the City, its officers, agents and employees harmless from any and all damages, including reasonable attorneys' fees, from any and all claims arising from any such reuse. Any such verification and adoption shall entitle the City to further compensation at rates to be agreed upon by the user and the City.

F. No Waiver of Rights: Neither the inspection by the City or the Engineer/Architect or any of their officers, employees, agents, or subconsultants, nor any order by the City for payment of money, nor any payment for, or acceptance of, the whole or any part of the Project by the City or Engineer/Architect, nor any extension of time or change order, nor any possession taken by the City or its employees, or non enforcement of any provision of this agreement by either party shall operate as a waiver of any provision of this agreement, or any power herein reserved to the City, or any right to damages, nor shall any waiver of any breach in this agreement be held to be a waiver of any other or subsequent breach. Acceptance or final payment shall not be final and conclusive with regards to latent defects, fraud, or such gross mistakes as may amount to fraud, or as regards the City's rights under any warranty.

G. Subletting or Assigning of Contract:

1. Limitations: The Contractor shall not sublet, assign, transfer, convey, sell or otherwise dispose of any portion of the agreement, his obligations, right, or interest therein, or its power to execute such agreement, to any person, firm or corporation without written consent of the City and such written consent shall not be construed to relieve the Contractor of any duty or responsibility for the fulfillment of the agreement. A sale, conveyance or transfer of 50% or more of the stock or ownership of the Contractor shall be considered an assignment. Provided; however, in no event shall any portion of this agreement be assigned to an unsuccessful bidder whose bid was rejected because he or she was not a responsible or responsive bidder. Use of subcontracts up to a combined (total) value of 50 percent of the value of all work will not be construed as an assignment. Unless otherwise stipulated in the proposal or general conditions, the Contractor shall perform, with its own organization, work with the value not less than fifty (50) percent of the value of all work embraced in the contract.
2. Subcontractor's Status: A subcontractor shall be recognized only in the capacity of an employee or agent of the Contractor.

H. Third Party Beneficiaries: It is the intent of the parties hereto that there shall be no third party beneficiaries to this agreement.

I. **Final Integration:** This Agreement constitutes the entire agreement of the parties, as a complete and final integration thereof with respect to its subject matter. All written or oral understandings and agreements heretofore had between and among the parties are merged into this Agreement, which alone fully and completely expresses their understandings. No representation, warranty, or covenant made by any party which is not contained in this Agreement or expressly referred to herein has been relied on by any party in entering into this Agreement.

J. **Force Majeure:** Neither party to this Agreement shall hold the other party responsible for damages or delay in performance caused by acts of God, strikes, lockouts or other circumstances beyond the reasonable control of the other or the other party's employees, agents or contractors.

K. **Amendment in Writing:** This Agreement may not be amended, modified, altered, changed, terminated, or waived in any respect whatsoever, except by a further agreement in writing, properly executed by all of the parties.

L. **Binding Effect:** This agreement shall bind the parties and their respective personal representatives, heirs, next of kin, legatees, distributees, successors, and assigns.

M. **Captions:** The captions of this Agreement are for convenience and reference only, are not a part of this Agreement, and in no way define, describe, extend, or limit the scope or intent of this Agreement.

N. **Construction:** This Agreement shall be construed in its entirety according to its plain meaning and shall not be construed against the party who provided or drafted it.

O. **Mandatory and Permissive:** "Shall", "will", and "agrees" are mandatory; "may" is permissive.

P. **Governing Laws:** The laws of the State of Alabama shall govern the validity of this Agreement, the construction of its terms, the interpretation of the rights, the duties of the parties, the enforcement of its terms, and all other matters relating to this Agreement.

Q. **Liability of the City or City Officials.** Notwithstanding any provision hereof to the contrary, the parties agree and acknowledge that the liability and obligations of the City, City officials or City employees as set forth herein are subject to the limitations imposed on municipalities by the Constitution and laws of the State of Alabama. No present or future official, officer or employee of the City shall ever be personally liable for the performance of any obligations hereunder.

R. **Non Discrimination:** The Contractor agrees that in performing the work and services as required herein under this agreement, not to discriminate against any person on the basis of race color, religion, sex, age or disability. (The Contractor shall fully comply with the Americans with Disabilities Act), the Fair Labor Standards Act and all other applicable laws and regulations).

S. **Fines and Penalties:** The Contractor shall be solely liable for any and all fines or penalties which may be levied by any governmental authority against the Owner and/or Contractor which are related to the Contractor's operations. The Owner shall deduct the amount of the levied fine or penalty from the Contract amount.

T. **Agreement Date/Counterparts:** The date of this Agreement is intended as and for a date for the convenient identification of this Agreement and is not intended to indicate that this Agreement was necessarily executed and delivered on said date. This instrument may be executed in any number of counterparts, each of which so executed shall be deemed an original, but all such counterparts shall together constitute but one and the same instrument.

U. **Use of Words and Phrases.** The following words and phrases, where used in this document, shall be given the following and respective interpretations: "Herein," "hereby," "hereunder," "hereof," and other equivalent words refer to this document as an entirety and not solely to the particular portion hereof in which any such word is used.

The definitions set forth in any portion of this Agreement unless the text or context indicates differently shall be deemed applicable whether the words defined are herein used in the singular or the plural. Wherever used herein any pronoun or pronouns shall be deemed to include both singular and plural and to cover all genders.

V. **Severability.** Each provision of this agreement shall be considered to be severable and, if for any reason, any such provision or any part thereof, is determined to be invalid and contrary to any existing or future applicable law, such invalidity shall not impair the operation of or affect those portions of this agreement that are valid, but this agreement shall be construed and enforced in all respects as if the invalid or unenforceable provision or part thereof had been omitted.

IN TESTIMONY WHEREOF, said Contractor has hereto affixed its signature and said City of Tuscaloosa has caused these presents to be executed by Walter Maddox, Mayor of the City of Tuscaloosa, and attested by the City Clerk, on the day and year first above written, in four counterparts, each of which shall, without proof or accounting for the other, be accepted as an original.

Matt [Signature]
ATTEST

PARTY OF THE FIRST PART
REV Construction, Inc.
Contractor

BY: [Signature]
ITS: President

CITY OF TUSCALOOSA, A MUNICIPAL CORPORATION/PARTY OF THE SECOND PART/CITY, OWNER
Walter Maddox
Walter Maddox, Mayor

ATTEST:
[Signature]
City Clerk

STATE OF ALABAMA)
COUNTY OF TUSCALOOSA)

I, Kim R. Leard, a Notary Public in and for said State at Large, hereby certify that Grody Pugh, who is named as President, is signed to the foregoing document, and,

- Who is known to me, or
- Whose identity I proved on the basis of _____, or
- Whose identity I proved on the oath/affirmation of _____, a creditable witness to the signer of the above document

and that being informed of the contents of the document, he/she, as such officer and with full authority, executed the same voluntarily on the day the same bears date.

Given under my hand and official seal this the 11th day of May, 2016.



Kim R. Leard
Notary Public.

My Commission Expires: 10/15/19

STATE OF ALABAMA)
COUNTY OF TUSCALOOSA)

Before me, the undersigned, a Notary Public in and for the State of Alabama, appeared Walter Maddox, Mayor of the City of Tuscaloosa and acknowledged that his signature is affixed hereto in his capacity as Mayor of the City of Tuscaloosa.

Done this the 25th day of May, 2016.

Kirkie Gilliland
Notary Public in and for the
State of Alabama at Large

My Commission Expires: 2/3/19

[END OF CONTRACT AGREEMENT OFFICE OF THE CITY ATTORNEY]

CITY OF TUSCALOOSA PUBLIC WORKS CONTRACT DOCUMENTS
SECTION SIX
PERFORMANCE BONDS
(2015)

STATE OF ALABAMA)
TUSCALOOSA, COUNTY)

KNOWN ALL MEN BY THESE PRESENTS, that we, REV Construction, Inc.
as principal and Travelers Casualty and Surety Company of America (hereinafter called the "Surety"), as
surety, do hereby acknowledge ourselves indebted and firmly bound and held unto the City of Tuscaloosa, Alabama,
(hereinafter called the "City") a municipal corporation existing under and by virtue of the laws of the State of
Alabama, for the use and benefit of those entitled thereto, in the penal sum of \$3,189,427.65
for the payment of which well and truly be made in lawful money of the United States, we do hereby bind ourselves,
our successors and assigns and personal representatives, jointly and severally, firmly by the presents.

BUT THE CONDITION OF THE FOREGOING OBLIGATION OR BOND IS THIS:

WHEREAS, the City has entered into a certain written contract with said Contractor for the _____
Disaster Recovery-Streets Reconstruction, Project A16-0216 in accordance with contract documents
therefore on file in the Office of the _____ at the price of, to-wit: _____
Three Million One Hundred Eighty-nine Thousand Four Hundred Twenty-seven And 65/100THS (\$ 3,189,427.65) as more fully appears in
said written contract bearing the date of May 25, 2016, which contract is
hereby referred to and made a part hereof to the same extent as if set out herein in full.

NOW, THEREFORE, if the Contractor shall fully and faithfully perform all the undertakings and obligations
under the said agreement or contract herein before referred to and shall fully indemnify and save harmless the said
City from all costs and damages whatsoever which it may suffer by reason of any failure on the part of said
Contractor so to do, and shall fully reimburse and repay the said City any and all outlay and expense which it may
incur in making good any such default, and shall guarantee all workmanship against defects for a period of one year,
this obligation or bond shall be null and void, otherwise it shall remain in full force and effect.

And, for value received it is hereby stipulated and agreed that no change, extension of time, alteration or
addition to the terms of said agreement or contract or in the work to be performed thereunder or the specifications
accompanying the same shall in any wise affect the obligations of the principal or of the surety under this bond, and
notice is hereby waived of any such change, extension of time, alternative of or addition to the terms of the
agreement or contract or to the work or to the specifications.

IN WITNESS WHEREOF, the said Contractor has hereunder affixed its signature and said Surety has
hereunto caused to be affixed its corporate signature and seal, by its duly authorized officers on the 25th day of
May, 2016.

REV Construction, Inc.
Principal
By [Signature]
Title

Travelers Casualty and Surety Company of America
Surety
By [Signature]

ATTEST:
[Signature]

Charles F. Horton, Jr., Attorney-in-Fact
Title



POWER OF ATTORNEY

Farmington Casualty Company
Fidelity and Guaranty Insurance Company
Fidelity and Guaranty Insurance Underwriters, Inc.
St. Paul Fire and Marine Insurance Company
St. Paul Guardian Insurance Company

St. Paul Mercury Insurance Company
Travelers Casualty and Surety Company
Travelers Casualty and Surety Company of America
United States Fidelity and Guaranty Company

Attorney-In Fact No. 230377

Certificate No. 006588921

KNOW ALL MEN BY THESE PRESENTS: That Farmington Casualty Company, St. Paul Fire and Marine Insurance Company, St. Paul Guardian Insurance Company, St. Paul Mercury Insurance Company, Travelers Casualty and Surety Company, Travelers Casualty and Surety Company of America, and United States Fidelity and Guaranty Company are corporations duly organized under the laws of the State of Connecticut, that Fidelity and Guaranty Insurance Company is a corporation duly organized under the laws of the State of Iowa, and that Fidelity and Guaranty Insurance Underwriters, Inc., is a corporation duly organized under the laws of the State of Wisconsin (herein collectively called the "Companies"), and that the Companies do hereby make, constitute and appoint

Timothy L. Donahue, T. Gary Fitts, J. David Fitts, Charles F. Horton Jr., R. Forrest Fitts, Cheryl Camak, Julie Tubbs, and Chris Davidson

of the City of Tuscaloosa, State of Alabama, their true and lawful Attorney(s)-in-Fact, each in their separate capacity if more than one is named above, to sign, execute, seal and acknowledge any and all bonds, recognizances, conditional undertakings and other writings obligatory in the nature thereof on behalf of the Companies in their business of guaranteeing the fidelity of persons, guaranteeing the performance of contracts and executing or guaranteeing bonds and undertakings required or permitted in any actions or proceedings allowed by law.

The authority granted hereunder to sign, execute, seal and acknowledge any individual bond, recognizance, conditional undertaking, and other writing obligatory in the nature thereof is limited to the sum of TEN MILLION (\$10,000,000.00) DOLLARS per bond.

IN WITNESS WHEREOF, the Companies have caused this instrument to be signed and their corporate seals to be hereto affixed, this 19th day of January, 2016.

Farmington Casualty Company
Fidelity and Guaranty Insurance Company
Fidelity and Guaranty Insurance Underwriters, Inc.
St. Paul Fire and Marine Insurance Company
St. Paul Guardian Insurance Company

St. Paul Mercury Insurance Company
Travelers Casualty and Surety Company
Travelers Casualty and Surety Company of America
United States Fidelity and Guaranty Company



State of Connecticut
City of Hartford ss.

By: [Signature]
Robert L. Raney, Senior Vice President

On this the 19th day of January, 2016, before me personally appeared Robert L. Raney, who acknowledged himself to be the Senior Vice President of Farmington Casualty Company, Fidelity and Guaranty Insurance Company, Fidelity and Guaranty Insurance Underwriters, Inc., St. Paul Fire and Marine Insurance Company, St. Paul Guardian Insurance Company, St. Paul Mercury Insurance Company, Travelers Casualty and Surety Company, Travelers Casualty and Surety Company of America, and United States Fidelity and Guaranty Company, and that he, as such, being authorized so to do, executed the foregoing instrument for the purposes therein contained by signing on behalf of the corporations by himself as a duly authorized officer.

In Witness Whereof, I hereunto set my hand and official seal. My Commission expires the 30th day of June, 2016.



[Signature]
Marie C. Tetreault, Notary Public

CITY OF TUSCALOOSA PUBLIC WORKS CONTRACT DOCUMENTS

SECTION SEVEN
LABOR AND MATERIAL BOND
(2016)

KNOWN ALL MEN BY THESE PRESENTS, that we, REV Construction, Inc.
(hereinafter called the "Contractor") of 2201 11th Street, Suite B, Tuscaloosa, AL 35401
as principal and Travelers Casualty and Surety Company of America (hereinafter called the
"Surety"), as surety, do hereby acknowledge ourselves indebted and firmly bound and held unto the City of
Tuscaloosa, Alabama, (hereinafter called the "City"), a municipal corporation, existing under and by virtue of the
Laws of the State of Alabama, for the use and benefit of those entitled thereto, in the penal sum of _____
Three Million One Hundred Eighty-nine Thousand Four Hundred Twenty-seven And 65/100THS
(\$ 3,189,427.65) for the payment of which well and truly to be made in lawful money of the
United States, we do hereby bind ourselves, or successors, assigns and personal representatives, jointly and
severally, firmly by these presents.

BUT THE CONDITION OF THE FOREGOING OBLIGATION OR BOND IS THIS:

WHEREAS: the City has entered into a certain written contract with said Contractor for the
Disaster Recovery-Streets Reconstruction, Project A16-0216, in accordance with contract documents therefore on
file in the Office of the Burk-Kleinpeter, Inc. at the price of, to-wit:
Three Million One Hundred Eighty-nine Thousand Four Hundred Twenty-seven And (\$3,189,427.65)
as more fully appears in said written contract bearing date of May 25, 2016 which contract is
hereby referred to and made a part hereof to the same extent as if set out herein in full.

NOW, THEREFORE, if said Principal and all subcontractors to whom any portion of the work provided for in
said contract is sublet and all assignees of said Principal and of such subcontractors shall promptly make payment to
all persons supplying him or them with labor, foodstuffs, or supplies for or in the prosecution of the work provided for
in such contract, or in any amendment or extension of or addition to said contract, and for the payment of
reasonable attorney's fees, incurred by the claimant or claimants in suits on said bond, then the above obligation
shall be void; otherwise, it shall remain in full force and effect.

PROVIDED, however, that this bond is subject to the following conditions and limitations:

(a) Any person, firm or corporation that has furnished labor, foodstuffs, or supplies for or in the
prosecution of the work provided for in said contract, payment for which has not been made, shall have a direct right
of action in his or their name or names against the principal and surety on this bond, which right of action shall be
asserted in a proceeding, instituted in the county in which the work provided for in said contract is to be performed
and in any county in which said Principal or Surety does business. Such right of action shall be asserted in a
proceeding instituted in the name of the claimant or claimants for his or their use and benefit against said Principal
and Surety or either of them (but not later than one year after the final settlement of said Contract) in which action
such claim or claims shall be adjudicated and judgment rendered thereon.

(b) In addition to any other legal mode of service, service of summons and other process in suits on
this bond brought in Tuscaloosa County may be had on the Principal or the Surety in accordance with Title 27,
Chapter 3, Section 24 of the Ala. Code (1975) by serving a copy of the summons and complaint or other pleading or
process, with the Commissioner of Insurance of the State of Alabama or his/ her designee and the Principal and
Surety agree to be bound by such mode of service above described and consents that such service shall be the
same as personal service on the Principal or Surety.

(c) The Surety shall not be liable hereunder for any damages or compensation recoverable under any workmen's compensation or employer's liability statute.

(d) In no event shall the Surety be liable for a greater sum than the penalty of this bond, or subject to any suit, action or proceeding thereon that is instituted later than one year after the final settlement of said contract.

(e) This bond is given pursuant to the terms of Title 39, Chapter 1, Section 1 of the Ala. Code (1975), and all the provisions of law with reference to this character of bond as set forth in said section or as may hereinafter be enacted are hereby made a part hereof to the same extent as if set out herein in full.

IN WITNESS WHEREOF, the said Contractor has hereunder affixed its signature and said Surety has hereunto caused to be affixed its corporate signature and seal, by its duly authorized officers on the day of May 25, 2016.

REV Construction, Inc.
Principal
By: [Signature]
President
Title

Travelers Casualty and Surety Company of America
Surety
By: [Signature]
Charles F. Horton, Jr., Attorney-in-Fact
Title

ATTEST:
[Signature]



POWER OF ATTORNEY

Farmington Casualty Company
Fidelity and Guaranty Insurance Company
Fidelity and Guaranty Insurance Underwriters, Inc.
St. Paul Fire and Marine Insurance Company
St. Paul Guardian Insurance Company

St. Paul Mercury Insurance Company
Travelers Casualty and Surety Company
Travelers Casualty and Surety Company of America
United States Fidelity and Guaranty Company

Attorney-In Fact No. 230377

Certificate No. 006588922

KNOW ALL MEN BY THESE PRESENTS: That Farmington Casualty Company, St. Paul Fire and Marine Insurance Company, St. Paul Guardian Insurance Company, St. Paul Mercury Insurance Company, Travelers Casualty and Surety Company, Travelers Casualty and Surety Company of America, and United States Fidelity and Guaranty Company are corporations duly organized under the laws of the State of Connecticut, that Fidelity and Guaranty Insurance Company is a corporation duly organized under the laws of the State of Iowa, and that Fidelity and Guaranty Insurance Underwriters, Inc., is a corporation duly organized under the laws of the State of Wisconsin (herein collectively called the "Companies"), and that the Companies do hereby make, constitute and appoint

Timothy L. Donahue, T. Gary Fitts, J. David Fitts, Charles F. Horton Jr., R. Forrest Fitts, Cheryl Camak, Julie Tubbs, and Chris Davidson

of the City of Tuscaloosa, State of Alabama, their true and lawful Attorney(s)-in-Fact, each in their separate capacity if more than one is named above, to sign, execute, seal and acknowledge any and all bonds, recognizances, conditional undertakings and other writings obligatory in the nature thereof on behalf of the Companies in their business of guaranteeing the fidelity of persons, guaranteeing the performance of contracts and executing or guaranteeing bonds and undertakings required or permitted in any actions or proceedings allowed by law.

The authority granted hereunder to sign, execute, seal and acknowledge any individual bond, recognizance, conditional undertaking, and other writing obligatory in the nature thereof is limited to the sum of TEN MILLION (\$10,000,000.00) DOLLARS per bond.

IN WITNESS WHEREOF, the Companies have caused this instrument to be signed and their corporate seals to be hereto affixed, this 19th day of January, 2016.

Farmington Casualty Company
Fidelity and Guaranty Insurance Company
Fidelity and Guaranty Insurance Underwriters, Inc.
St. Paul Fire and Marine Insurance Company
St. Paul Guardian Insurance Company

St. Paul Mercury Insurance Company
Travelers Casualty and Surety Company
Travelers Casualty and Surety Company of America
United States Fidelity and Guaranty Company



State of Connecticut
City of Hartford ss.

By: [Signature]
Robert L. Raney, Senior Vice President

On this the 19th day of January, 2016, before me personally appeared Robert L. Raney, who acknowledged himself to be the Senior Vice President of Farmington Casualty Company, Fidelity and Guaranty Insurance Company, Fidelity and Guaranty Insurance Underwriters, Inc., St. Paul Fire and Marine Insurance Company, St. Paul Guardian Insurance Company, St. Paul Mercury Insurance Company, Travelers Casualty and Surety Company, Travelers Casualty and Surety Company of America, and United States Fidelity and Guaranty Company, and that he, as such, being authorized so to do, executed the foregoing instrument for the purposes therein contained by signing on behalf of the corporations by himself as a duly authorized officer.

In Witness Whereof, I hereunto set my hand and official seal.
My Commission expires the 30th day of June, 2016.



[Signature]
Marie C. Tetreault, Notary Public



FITTS AGENCY INC.

Insurance and Bonds Since 1875

- T. Gary Fitts, CPCU
- J David Fitts, CIC
- Charles F. Horton, Jr., CIC
- R. Forrest Fitts, CPCU, AMIM, CIC
- Virginia W. Parks, CIC, CRM
- Timothy L. Donahue, CIC

1806 6th Street
Tuscaloosa, AL 35401
PO Box 20007
Tuscaloosa, AL 35402-0007
Phone: 205.342.3500
Fax: 205.342.3467
www.fittsagency.com

August 20, 2012

To Whom It May Concern:

Attached you will find the Fitts Agency's Certificate of Insurance for our insured. The attached Certificate of Insurance is a reflection of the current coverage that is in place. The Alabama Department of Insurance issued a revision of Regulation 62 dealing with Certificates of Insurance. The revision took effect June 5, 2004. This revision specifically dealt with the altering of Certificates of Insurance.

According to Johnny Johnson, Deputy Insurance Commissioner, "the intent of the revision is to return to the original purpose the Certificate of Insurance was intended to serve, that of a notice to Certificate Holder of the existence of coverage and to reiterate that the intent was never to amend or alter the coverage provided by the insurance company".

The Fitts Agency by issuing the attached Certificate of Insurance has attempted to comply with the new regulation by attaching a Certificate of Insurance providing the Certificate Holder notice of the existence of coverage at the time of the issuance of the Certificate. Should you have any questions, please do not hesitate to call.

Sincerely,

Fitts Agency, Inc.

"Service Makes A Whale of A Difference"



STATE OF ALABAMA)
TUSCALOOSA COUNTY)
CITY OF TUSCALOOSA)

CONTRACTOR'S RELEASE OF LIENS AND CLAIMS

Project No. _____

THIS Contractor's Release of Liens and Claims is made in accordance with that certain contract between the CITY OF TUSCALOOSA, ALABAMA, a Municipal Corporation, (hereinafter the "City") and _____ (hereinafter the "Contractor" or undersigned), for a project known as _____ in regard to which the undersigned warrants and certifies to the City as follows:

1. That there are no amounts owed by the undersigned or any tier of subcontractor or supplier of the undersigned which could become the basis for a lien or suit against the properties of the Contractor or the property of the City or any funds held by or in the possession of the City in regard to the Project.

2. That the undersigned has satisfied all claims and indebtedness of every nature in any way connected with the work, including (but not limited to) all payrolls, amounts due to subcontractors, accounts for labor performed and materials furnished, incidental services, liens and judgments.

3. In consideration of the receipt by the undersigned from the City of final payment under the above mentioned contract, the undersigned hereby waives and relinquishes all liens and claims of lien which the undersigned may have against the aforesaid property or funds; and further, undersigned also hereby remises, releases and forever discharges the City, its officers, agents and employees, of any and all claims, demands and causes of action whatsoever which the undersigned has, might have or could have against the City by reason of or arising out of the above-mentioned contract. The undersigned further agrees to indemnify and hold the City, its officers, agents and employees harmless against any and all claims or demands from subcontractors or suppliers arising out of the aforementioned contract.

IN WITNESS WHEREOF, the undersigned has duly executed this release this the _____ day of _____, 20_____.

CONTRACTOR:

BY: _____
TITLE: _____

I, _____, after being duly sworn, depose and say as follows: That I am the _____ of the _____ Corporation and hereby certify that I am duly authorized to execute this Contractor's Release of Liens and Claims.

STATE OF ALABAMA)
TUSCALOOSA COUNTY)
Sworn to and subscribed before me on this
the _____ day of _____, 20_____.

Notary Public

CONSENT OF SURETY:

SURETY
BY: _____
ATTORNEY-IN-FACT FOR SURETY

CITY OF TUSCALOOSA PUBLIC WORKS

ROOFING GUARANTEE

Project No. _____

Name of Project _____

Location _____

Owner _____ City of Tuscaloosa _____

General Contractor _____

Address _____

Date of Acceptance _____ Date of Expiration _____

1. The General Contractor does hereby certify to the City of Tuscaloosa that the roofing work included in this contract was installed in strict accordance with all requirements of the plans and specifications.

2. The General Contractor does hereby guarantee the roofing and associated work including all flashing, both composition and metal, against leaks due to faulty workmanship for a period of five (5) years and against leaks due to faulty or defective materials for twenty (20) years, starting on the date of acceptance of the Project by the City.

3. Subject to the terms and conditions listed below, the General Contractor guarantees that during the Guarantee Period he will at his own cost and expense, make or cause to be made such repairs to, or replacements of said work, as are necessary to correct faulty and defective work and materials as are necessary to maintain said work in watertight conditions, and further, to respond on or within three (3) calendar days upon proper notification of leaks or defects by the City or Architect.

A. Specifically excluded from this Guarantee are damages to the work, other parts of the building and building contents caused by: Lightning, windstorm, hail storm and other unusual phenomena of elements; and, Fire. When the work has been damaged by any of the foregoing causes, the Guarantee shall be null and void until such damage has been repaired by the General Contractor, and until the cost and expense thereof has been paid by the City or by the responsible party so designated.

B. During the Guarantee Period, if the City allows alteration of the work by anyone other than the General Contractor, including cutting, patching and maintenance in connection with penetrations, and positioning of anything on the roof, this Guarantee shall become null and void upon the date of said alterations. If the City engages the General Contractor to perform said alterations, the Guarantee shall not become null and void, unless the General Contractor, prior to proceeding with said work, shall have notified the City in writing, showing reasonable cause for claim that said alterations would likely damage or deteriorate the work, thereby reasonably justifying a termination of this Guarantee.

C. Future building additions will not void this guarantee, except for that portion of the future addition that might affect the work under this contract at the point of connection of the roof areas, and any damage caused by such addition. If this contract is for roofing of an addition to an existing building, then this guarantee covers the work involved at the point of connection with the existing roof.

D. During the Guarantee Period, if the original use of the roof is changed and it becomes used for, but was not originally specified for, a promenade, work deck, spray cooled surface, flooded basin, or other use of service more severe than originally specified, this Guarantee shall become null and void upon the date of said change.

E. The City shall promptly notify the General Contractor of observed, known or suspected leaks, defects or deterioration, and shall afford reasonable opportunity for the General Contractor to inspect the work, and to examine the evidence of such leaks, defects or deterioration.

IN WITNESS THEREOF, this instrument has been duly executed this the ___ day of _____, 20__.

General Contractor's Authorized Signature
NAME AND TITLE _____

CITY OF TUSCALOOSA

ASBESTOS AFFIDAVIT

Project No. _____

DATE: _____

BUILDING OWNER: _____

PROJECT: _____

TO WHOM IT MAY CONCERN:

The undersigned certifies that to the best of his knowledge, no products containing asbestos have been included in the construction of the captioned Project. Special care was exercised to avoid asbestos-containing products, including reviewing product data sheets, reviewing product labels, and visually verifying products in the field. Special care to avoid asbestos has been used in the selection, purchase, and installation of products, including, but not limited to, the following: concrete, batt insulation, roof insulation, building felts, mastics, waterproofing products, adhesives, resilient flooring products, ceiling tiles, interior coatings, exterior coatings, roofing, pipe insulation, duct insulation, and pre-assembled items of equipment.

Respectfully submitted,

Signature

Typed Name

Title

Firm Name

Address

Sworn to and subscribed before me on this the _____
day of _____, 20_____.

Notary Public.

County, State

My Commission Expires:

PROJECT NAME _____

PROJECT NO. _____

CONTRACTOR/INSURED _____

STATE OF ALABAMA)

TUSCALOOSA COUNTY)

AGENT'S VERIFICATION OF CONTRACTOR'S INSURANCE

This is to certify to the City of Tuscaloosa, Alabama, a Municipal Corporation, that the Contractor in the above referenced Project does possess a policy or policies of insurance reflected on the Certificate of Insurance issued for the Project by the undersigned agency of which I am an authorized representative. I have read the contract document as it relates to insurance requirements and said Contractor's insurance is effective as of the dates stated in the certificate and meets or exceeds all ratings, limits, and amounts as required by the same.

This the _____ day of _____, 20_____.

AGENCY: _____

BY: _____

ITS: _____

STATE OF ALABAMA)
TUSCALOOSA COUNTY)

NOTICE OF CONDITIONAL BID AWARD
CITY OF TUSCALOOSA, ALABAMA

VIA FACSIMILE:

TO: REV CONSTRUCTION, INC.
2201 11th STREET
TUSCALOOSA, AL 35401

Project Name: DISASTER RECOVERY FOR STREETS RECONSTRUCTION
Project Number: A16-0216
Date: 5-27-16

You are here notified pursuant to Ala. Code §39-2-6 (1975), that the City of Tuscaloosa has made a conditional bid award to you in regard to the above-referenced Project based upon your proposal of \$ 3,189,427.65

The above bid award Does Does Not include the following additive and/or deductive alternates as requested in the bid documents:

Additive Alternates	Deductive Alternates
1. _____ (\$ _____)	1. _____ (\$ _____)
2. _____ (\$ _____)	2. _____ (\$ _____)
3. _____ (\$ _____)	3. _____ (\$ _____)

Pursuant to Ala. Code §39-2-8 (1975), you are required to enter into a written contract on the form included in the proposal, plans and specifications, furnish a performance bond and a payment bond executed by a surety company authorized and qualified to make such bonds in the State of Alabama, in the amount required in the bid documents, and present evidence of insurance also as required by the bid documents, within the period of time stated therein or, if no period of time is stated, within thirty (30) days after the prescribed forms have been presented to you for signature.

Pursuant to Ala. Code §39-2-11 (1975), if you fail to execute the contract and furnish acceptable contract securities and evidence of insurance as required by the bid documents within the period of time as set forth, the awarding authority may retain all or a part of the proposal guarantee and may award the contract to the second lowest responsible responsive bidder. Under such circumstances, the owner will be entitled to consider all rights arising out of its acceptance of your proposal as abandoned.

DONE this 27th day of May, 2016.

CITY OF TUSCALOOSA, ALABAMA
A MUNICIPAL CORPORATION
Post Office Box 2089
Tuscaloosa, Alabama 35403-2089

By: [Signature] Bkl
City's Representative/Engineer/Architect

ACCEPTANCE OF NOTICE

I, on behalf of the above named contractor, do hereby accept receipt of the above notice of conditional bid award and acknowledge the contents of the same on this the 27th day of May, 2016.

CONTRACTOR:
[Signature]
By its: Van Park

STATE OF ALABAMA)
TUSCALOOSA COUNTY)
CITY OF TUSCALOOSA)

NOTICE TO PROCEED WITH PUBLIC WORKS PROJECT
CITY OF TUSCALOOSA, ALABAMA

Project Name: DISASTER RECOVERY FOR STREETS RECONSTRUCTION
Project No.: A16-0216
Date: MAY 27, 2016

TO: REU CONSTRUCTION, INC.
2201 11th STREET
TUSCALOOSA, AL 35401

Pursuant to Ala. Code §39-2-10 (1975), you are hereby notified to immediately commence work in full accordance with the terms and conditions of the Contract Documents in the above referenced Project, dated MAY 25th, 2016, on or before JUNE 13th, 2016, and you are to complete the work within the time specified therein.

CITY OF TUSCALOOSA, ALABAMA
A MUNICIPAL CORPORATION
Post Office Box 2089
Tuscaloosa, Alabama 35403-2089

By: [Signature] BK1
City's Representative

ACCEPTANCE OF NOTICE

I, on behalf of the above named contractor, do hereby accept receipt of the above notice to proceed with the referenced Project and acknowledge the contents of the same on this the 27th day of May, 2016.

CONTRACTOR:

[Signature]
By Its: Vice Pres.

CONTRACT CHANGE ORDER NO.
 City of Tuscaloosa, Office of the City Attorney

DATE: _____ **PROJECT:** _____

TO: _____
 (Contractor)

TERMS: You are hereby authorized, subject to the provisions of your Contract for this Project, to make the following changes thereto in accordance with the attached Change Order Request and supporting documents and to:

FURNISH the necessary labor, materials and equipment to:

TOTAL ADDITION OR REDUCTION TO CONTRACT PRICE:

(Note: Numbers in parentheses are deductions).

ORIGINAL CONTRACT PRICE	\$	_____
LESS CONTINGENCY/ALLOWANCE	\$	_____
NET ORIGINAL CONTRACT PRICE	\$	_____
Net total of previous Change Orders	\$	_____
Previous revised Contract Price	\$	_____
This Change Order No. _____ <input type="checkbox"/> Add <input type="checkbox"/> Deduct	\$	_____
Revised Contract Price this date	\$	_____

Extension of time resulting from this Change Order _____ (Indicate number of calendar days).

The amount of this Change Order will be the responsibility of _____

This Contract Modification constitutes full and mutual accord and satisfaction for all time and all cost related to this change. By acceptance of this Contract Modification, the Contractor hereby agrees that the modification represents an equitable adjustment to the Contract, and further, agrees to waive all right to file any further claims or changes arising out of or as a result of this change, or the accumulation of executed Contract Modifications on this Contract.

The Contractor and Owner(s) hereby agree to the terms of this Change Order as contained herein.

CONSENT OF SURETY

CONTRACTING PARTIES

 (Company)

 (Contractor)

By: _____

By: _____
 (Authorized Representative)

RECOMMENDED

CITY OF TUSCALOOSA

By: _____

 (Design Engineer or Architect)

By: _____
 (Mayor)

CITY OF TUSCALOOSA
OFFICE OF THE CITY ATTORNEY

**CHANGE
ORDER
REQUEST**

OWNER: CITY OF TUSCALOOSA

ARCHITECT/ENGINEER: _____

CONTRACTOR: _____

PROJECT: _____

CHANGE ORDER REQUEST NO. _____ DATE: _____

1. DESCRIPTION OF CHANGE:

2. CHANGE ORDER COSTS: _____

Proposal Attached _____ Cost Estimated/Proposal Required

<i>Item</i>	<i>Quantity</i>	<i>Material Unit Price</i>	<i>Labor (Hours)</i>	<i>Labor Unit Price</i>	<i>Sub-Total Cost</i>
a.					
b.					
c.					
d.					
e.					
f.*					
TOTAL:					

*If more than 6 items, provide attachments.

3. INSTITUTED BY:

4. JUSTIFICATION OF NEED:

5. JUSTIFICATION OF CHANGE ORDER VERSUS COMPETITIVE BIDDING:

6. COSTS REVIEW:

7. THIS CHANGE ORDER IS SUBMITTED FOR REVIEW AND APPROVAL AND IS CLASSIFIED AS THE FOLLOWING TYPE:

- Minor change of a total monetary value less than required for competitive bidding.
 - Changes for matters relatively minor and incidental to the original contract necessitated by unforeseeable circumstances arising during the course of work.
 - Emergencies arising during the course of work.
 - Change or alternates provided for in the original bidding where there is no difference in price of the Change Order from the original best bid on the Alternate.
 - Change of relatively minor terms not contemplated when the plans and specifications were prepared and the Project was bid and which are in the public interest and do not exceed 10% of the Contract Price.
-

8. EXTENSION OF TIME REQUESTED: Calendar Days:

RECOMMENDED:

APPROVED:

BY: _____
Tuscaloosa's Consulting Engineer/Architect

BY: _____
Contractor

BY: _____
City Representative

BY: _____
Owner's Legal Advisor

BY: _____
Owner's Authorized Representative

STATE OF ALABAMA)
COUNTY OF TUSCALOOSA)
CITY OF TUSCALOOSA)

**LEGAL NOTICE
NOTICE OF COMPLETION OF PUBLIC WORKS PROJECT
(Over \$50,000)**

Pursuant to Ala. Code §39-1-1 (1975), notice is hereby given that
_____ has completed its contract with
(Name of Company)
the City of Tuscaloosa, Alabama, for the _____
(Name of Project)
located at _____ . This notice will be
(Location of the Project)
published for a period of four (4) successive weeks beginning: _____
(Date)

A final settlement will not be made upon the contract until the expiration of thirty (30) days after completion of notice. Any person or firm having claims on said Project for materials or labor should contact the above contractor at:

(Address of Contractor)

in the time and manner as required by law.

**CITY OF TUSCALOOSA
OFFICE OF THE CITY ATTORNEY
P. O. BOX 2089
TUSCALOOSA, ALABAMA 35403**

DATED: _____

CITY OF TUSCALOOSA
SPECIAL CONDITIONS FOR
FEDERALLY FUNDED CONTRACTS

I. DEFINITIONS

"Construction Contract" means a contract for construction, rehabilitation, alteration, and/or repair, including painting and decorating.

"Contractor" means an entity that has entered into an agreement with the local government for the performance of specific work on a project or activity, the provision of professional services, or for the supply of equipment and/or materials.

" HUD " means U.S. Department of Housing and Urban Development (Federal Agency).

"Local Government" means the City of Tuscaloosa.

"Program" means the Community Development Block Grant Disaster Recovery (CDBG-DR) and Community Development Block Grant (CDBG)
(Federal Program) operated under the provisions of HUD

"Projects/Activities" means those undertakings which are included in the Program and are funded wholly or in part by CDBG-DR and CDBG

"Project Area" means the corporate limits of the City of Tuscaloosa.

"Subcontractor" means a person, firm or corporation supplying services or labor and materials or only labor or only materials for work at the site of the project, for and under contract or agreement with the Contractor.

II. CONFLICT OF INTEREST

A. Interest of Members of the Local Government. No officer, employee or agent of the local government who exercises any function or responsibilities in connection with the planning and carrying out of the program, or any other person who exercises any functions or responsibilities in connection with the program, shall have any personal financial interest, direct or indirect, in this contract, and the Contractor shall take appropriate steps to assure compliance.

B. The Contractor agrees that it will incorporate into every subcontract required in writing the following provision: Interest of Contractor and Employees. The Contractor agrees that no person who presently exercises any functions or responsibilities in connection with the program, has any personal financial interest, direct or indirect, in this contract. The Contractor further covenants that he presently has no interest and shall not acquire any interest, direct or indirect, which would conflict in any manner or degree with the performance of his services hereunder.

The Contractor further covenants that in the performance of this contract no person having any conflicting interest shall be employed. Any interest on the part of the Contractor or his employees must be disclosed to the City. Provided, however, that this paragraph shall be interpreted in such a manner so as not to unreasonably impede the statutory requirement that maximum opportunity be provided for employment of and participation by low income residents of the area.

C. Provisions of the Hatch Act. Neither the funds provided by this agreement nor the personnel

employed in the administration of the agreed upon work shall be in any way or to any extent engaged in the conduct of political activities in contravention of Chapter 15 of Title 5, U. S. Code.

III. **EQUAL OPPORTUNITY REQUIREMENTS:** During the performance of this contract, the Contractor agrees as follows:

1. The Contractor will not discriminate against any employee or applicant for employment because of race, color, religion, sex, national origin, age, or disability. The Contractor will take affirmative action to ensure that applicants are employed, and that employees are treated during employment without regard to their race, color, religion, sex, national origin, age, or disability. Such action shall include, but not be limited to the following: employment, upgrading, demotion, or transfer; recruitment, or recruitment advertising; layoff or termination; rates of pay or other forms of compensations; and selection of training, including apprenticeship. The Contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices setting forth the provisions of this non-discrimination clause.

2. The Contractor will, in all solicitations or advertisements for employees placed by or on behalf of the Contractor, state that all qualified applicants will receive consideration for employment without regard to race, color, religion, sex, national origin, age, or disability.

3. The Contractor will send to each labor union or representative of workers with which he has collective bargaining agreement or other contract or understanding, a notice advising the said labor union or workers' representatives of the Contractor's commitments under this section, and shall post copies of the notice in conspicuous places available to employees and applicants for employment.

4. The Contractor will comply with all provisions of Executive Order 11246 of September 24, 1965, and of the rules, regulations, and relevant orders of the Secretary of Labor.

5. The Contractor will furnish to the local government all information and reports required by Executive Order 11246 of September 24, 1965, and by rules, regulations, and orders of the Secretary of Labor, or pursuant thereto, and will permit access to his books, records, and accounts by the local government, HUD, and the Secretary of Labor for purposes of investigation to ascertain compliance with such rules regulations, and orders.

6. In the event of the Contractor's non-compliance with the nondiscrimination clauses of this agreement or with any of the said rules, regulations, or orders, this agreement may be canceled, terminated, or suspended in whole or in part and the Contractor may be declared ineligible for further local government contracts in accordance with procedures authorized in Executive Order 11246 of September 24 1965, and such other sanctions may be imposed and remedies invoked as provided in Executive Order 11246 of September 24, 1965, or by rule, regulation, or order of the City, Secretary of Labor, or as otherwise provided by law.

7. The Contractor will include the provisions of paragraph 1 through 6 above in every subcontract or purchase order unless exempted by rules, regulations, or orders of the local government or the Secretary of Labor issued pursuant to Section 204 of Executive Order 11246 of September 24, 1965, so that such provisions will be binding upon each subcontractor or vendor. The Contractor will take such action with respect to any subcontract or purchase order as may be directed as a means of enforcing such provisions, including sanctions for noncompliance: Provided however, that in the event a Contractor becomes involved in, or is threatened with, litigation with a subcontractor or vendor as a result of such direction by the City, the Contractor may request the local government to enter into such litigation to protect the interests of the local government.

8. The Contractor agrees that it will assist and cooperate actively with the local government and the Secretary of Labor in obtaining the compliance of subcontractors with the equal opportunity clause and the rules, regulations, and relevant orders of the Secretary of Labor, that it will furnish the local government and the Secretary of Labor such information as they may require for the supervision of such compliance, and that it will otherwise assist the local government in the discharge of its primary responsibility for securing compliance.

9. The Contractor further agrees that it will refrain from entering into any contract or contract

modification subject to Executive Order 11246 of September 24, 1965, with a Contractor debarred from, or who has not demonstrated eligibility for, Government contracts and federally assisted construction contracts pursuant to the Executive Order. In addition, the agency agrees that if it fails or refuses to comply with these undertakings, the local government may take any or all of the following actions: terminate or suspend in whole or in part this contract; refrain from extending any further assistance to the Contractor under the program with respect to which the failure or refusal occurred until satisfactory assurance of future compliance has been received from such Contractor.

10. Non-segregated Facilities. The Contractor certifies that he does not maintain or provide for his employees any segregated facilities at any of his establishments and that he does not permit his employees to perform their services at any location, under his control, where segregated facilities are maintained. The Contractor covenants that he will not maintain or provide for his employees any segregated facilities at any of his establishments, and that he will not permit his employees to perform their services at any location, under his control, where segregated facilities are maintained. As used in this paragraph, the term "segregated facilities" means any waiting rooms, work areas, restrooms and washrooms, restaurants and other eating areas, time clocks, locker rooms and other storage or dressing areas, parking lots, drinking fountains, recreation or entertainment areas, transportation, and housing facilities provided for employees which are segregated on the basis of race, creed, color, or national origin, because of habit, local custom, or otherwise.

11. No person in the United States shall, on the ground of race, color, religion, sex, or national origin, be excluded from participation in, be denied the benefits of, or be subject to discrimination under any program or activity made possible by or resulting from this contract. The agency and each employer will comply with all requirements imposed by or pursuant to Title VI of the Civil Rights Act of 1964.

12. The Contractor shall maintain data which records its affirmative action in equal opportunity employment, including but not limited to employment, upgrading, demotions, transfers, recruitment or recruitment advertising, layoffs or terminations, pay or other compensation, and selection for training.

IV. LABOR STANDARDS PROVISIONS - CONSTRUCTION CONTRACTS ONLY

A. Contract Work Hours and Safety Standards Act

1. Overtime Requirements. No Contractor or subcontractor contracting for any part of the contract work which may require or involve the employment of laborers or mechanics shall require or permit any laborer or mechanic in any work-week in which he is employed on such work to work in excess of forty hours in any work-week unless such laborer or mechanic receives compensation at a rate not less than one and one-half times his basic rate of pay for all hours worked in excess of forty hours in any work-week.
2. Violations; Liability for Unpaid Wages; Liquidated Damages. In the event of any violation of the clause set forth in subparagraph 1, the Contractor and any subcontractor responsible therefore shall be liable to any affected employee for his unpaid wages. In addition, such Contractor and subcontractor shall be liable to the City for liquidated damages. Such liquidated damages shall be computed with respect to each individual laborer or mechanic employed in violation of the clause set forth in subparagraph 1 in the sum of \$10 for each calendar day on which such employee was required or permitted to work in excess of the standard work-week of forty hours without payment of the overtime wages required by the clause set forth in subparagraph 1.
3. Withholding for Unpaid Wages and Liquidated Damages. The local government may withhold or cause to be withheld, from any monies payable on account of work performed by the Contractor or subcontractor, such sums as may administratively be determined to be necessary to satisfy any liabilities of such Contractor or subcontractor for unpaid wages and

liquidated damages.

B. Employment of Certain Persons Prohibited. No person under the age of sixteen years and no person who at the time, is serving sentence in a penal or correctional institution shall be employed on the work covered by this contract.

C. Complaints, Proceedings, or Testimony by Employees. No laborer or mechanic to whom the labor standards provisions of this contract are applicable shall be discharged or in any other manner discriminated against by the Contractor or any subcontractor because such employee has filed any complaint or instituted or caused to be instituted any proceedings or has testified or is about to testify in any proceedings under or relating to the labor standards applicable under this contract.

D. Questions Concerning Certain Federal Statutes and Regulations. All questions arising under this contract which relate to the application or interpretation of the aforesaid Contract Work Hours and Safety Standards Act, the regulations issued by the Secretary of Labor, United States Department of Labor, pursuant to said Act, or the labor standards provisions of any other pertinent Federal statute, shall be referred, through the City of Tuscaloosa and the Secretary of Housing and Urban Development, to the Secretary of Labor, United States Department of Labor, for said Secretary's appropriate ruling or interpretation which shall be authoritative and may be relied upon for the purpose of this contract.

V. ENVIRONMENTAL PROTECTION REQUIREMENTS

A. The Contractor hereby agrees that any facility to be utilized in the performance of any nonexempt contract or subcontract shall not be a facility included on the list of Violating Facilities issued by the Environmental Protection Agency (EPA) pursuant to 40 CFR 15.20.

B. The Contractor also agrees to comply with all the requirements of Section 114 of the Clean Air Act, as amended, (42 USC 1857c-8) and Section 308 of the Federal Water Pollution Control Act, as amended, (33 USC 1318) relating to inspection, monitoring, entry, reports and information, as well as all other requirements specified in said Section 114 and Section 308, and all regulations and guidelines issued thereunder.

C. As a condition of the award of the contract, the Contractor agrees to give prompt notice to the City of any notification received from the Director, Office of Federal Activities, EPA, indicating that a facility utilized or to be utilized for the contract is under consideration to be listed on the EPA List of Violating Facilities.

D. The Contractor agrees that it will include or cause to be included the criteria and requirements in subparagraph A through D of this section in every nonexempt subcontract and that it will take such action as the City or the EPS may direct as a means of enforcing such provisions.

VI. FINANCIAL MANAGEMENT: The Contractor shall maintain effective control over and accountability for all funds, property, and other assets that are provided for by this agreement. The Contractor shall adequately safeguard all such assets and shall assure that they are used solely for authorized purposes.

A. Ineligible Costs. In addition to any costs that are ineligible under other criteria included herein the following costs are specifically ineligible:

1. Bad Debts. Any losses arising from uncollected accounts and other claims, and related costs.
2. Contingencies. Contributions to a contingency reserve or any similar provisions for unforeseen events.
3. Contributions and Donations.
4. Entertainment. Costs of amusements, social activities, and incidental costs, such as meals, beverages, lodgings, and gratuities, relating to entertainment.
5. Fines and Penalties. Costs resulting from violations of or failure to comply with Federal,

- State, and local laws and regulations.
6. Interest and Other Financial Costs. Interest on borrowing (however represented), bond discounts, cost of financing and refinancing operations, and legal and professional fees paid in connection herewith.
 7. Legislative Expenses. Salaries and other expenses of local government bodies such as county supervisors, city councils, school boards, etc., whether incurred for purposes of legislation or executive direction.
 8. Membership Expenses. Cost of membership in an organization which devotes a substantial part of its activities to influencing legislation.
 9. Travel. Costs in excess of those allowed by the Contractor for its equivalent employees. In any case, the difference in cost between first-class air accommodations and less-than-first-class air accommodations are not available and is so documented.
 10. Meeting Attendance. Costs of attending meetings which are not open for attendance on a non-segregated basis.

B. Property Management Standards. The Contractor's property management standards for non-expendable personal property acquired under this contract shall include the following procedural requirements:

1. Property records shall be maintained accurately and provide for: a description of the property; manufacturer's serial number or other identification number; acquisition data, cost, and source of property; percentage of Federal funds used in the purchase of property; location, use and condition of the property; and ultimate disposition data including sales price or the method used to determine current fair market value.
2. A physical inventory of property shall be taken and the results reconciled with the property records at least once each year to verify the existence, current utilization, and continued need for the property.
3. A control system shall be in effect to ensure adequate safeguards to prevent loss, damage, or theft to the property. Any loss, damage, or theft of non-expendable property shall be investigated and fully documented.
4. Adequate maintenance procedures shall be implemented to keep the property in good condition.

C. Procurement Standards

1. The Contractor shall maintain a code or standard of conduct which shall govern the performance of its officers, employees, or agents in contracting with and expending grant funds. Local government officers, employees, or agents shall neither solicit nor accept gratuities, favors, or anything of monetary value from Contractors or potential Contractors.
2. All procurement transactions regardless of whether negotiated or advertised and without regard to dollar value shall be conducted in a manner so as to provide maximum open and free competition.

VII. GENERAL REQUIREMENTS

A. Retention of Records. All records maintained by the Contractor that pertain to this agreement shall be retained by the Contractor for a period of three years or such longer period as the local government or HUD may require in specific cases.

B. Reports and Information. The Contractor, at such times as the local government may require, shall furnish such statements, reports, records, data and information, as may be requested pertaining to matters covered by

this agreement.

C. Audit Requirements. The local government, the Comptroller General of the United States, and/or U.S. Department of Housing and Urban Development (HUD) (Federal Agency), or any of the duly authorized representatives shall have access to all tasks, accounts, records, reports, files and other papers or property of the Contractor pertaining to funds provided under this agreement for the purpose of making surveys, audits, examinations, excerpts, and transcripts. The Contractor's financial management system shall be audited at least once a year. Audits may be made at less frequency considering the nature, size and complexity of the activity. The Contractor shall implement a systematic method to assure timely and appropriate resolution of audit findings and recommendations.

D. Breach of Contract Terms and Conditions. In the event of the Contractor's noncompliance with the terms and conditions of this contract or with any of the said rules, regulations or orders, this contract may be canceled, terminated or suspended in whole or in part. Provided, that the right of the Contractor to proceed with this contract shall not be terminated or the Contractor charged with liquidated damages because of delays in the completion of the work due to unforeseeable causes beyond the control and without the fault or negligence of the Contractor, including but not restricted, to acts of God, or of the public enemy, acts of the Government, fires, floods, epidemics, quarantine restrictions, strikes, freight embargoes, and unusually severe weather or delays of subcontractors due to such causes, if the Contractor shall within ten days from the beginning of any such delay notify the City in writing of the cause of the delay. The City shall ascertain the facts and the extent of the delay and extend the time for completing the work when, in the City's judgment, the findings of fact justify such an extension, and the City's findings of fact thereon shall be final and conclusive on the parties hereto, subject only to appeal, within thirty days, by the Contractor to the City whose decision on such appeal as to the facts of delay and the extension of time for completing the work shall be final and conclusive on the parties hereto.

E. Safety Standards. No Contractor or subcontractor contracting for any part of a construction contract shall require any laborer or mechanic employed in the performance of the contract to work in surroundings or under working conditions which are unsanitary, hazardous, or dangerous to his health or safety, as determined under construction safety and health standards promulgated by the Secretary of Labor.

F. Lead-based Paint Regulations. The construction or rehabilitation of residential structures with assistance provided under this contract is subject to the HUD Lead-based Paint regulations, 24 CFR part 35. Should this contract include activities involving the construction or rehabilitation of residential structures, the Contractor hereby agrees to comply with the regulations of 24 CFR part 35.

G. Subcontracts. The Contractor shall insert in any subcontracts all of the terms and conditions set forth in this contract and also a clause requiring the subcontractors to include these terms and conditions in any lower tier subcontracts which they may enter into, together with a clause requiring this insertion in any further subcontracts that may in turn be made.

H. Davis-Bacon. As applicable, Contractors shall comply with the Davis-Bacon Act (40 U.S.C. 276a to 276a-7) as supplemented by Department of Labor regulations (29 CFR Part 5), the provisions of which are incorporated by reference into this contract as if contained herein.

I. Debarment of contactors/subcontractors / City's right to monitor. All contracting and subcontracting agencies shall be actively registered in the sam.gov system and have a non-debarred status to perform work. The City of Tuscaloosa shall have all rights to any and all documentation related to the project. Periodic monitoring visits will be performed by City of Tuscaloosa staff to ensure all federal and contract requirements are followed.

J. Green Building Standard for Replacement and New Construction of Residential Housing. Contractors must meet the Green Building Standard in this subparagraph for: (i) all new construction of residential buildings; and (ii) all replacement of substantially-damaged residential buildings. Replacement of residential buildings may include reconstruction (i.e., demolishing and re-building a housing unit on the same lot in substantially the same manner) and may include changes to structural elements such as flooring systems, columns or load bearing interior or

exterior walls. For purposes of this Notice, the Green Building Standard means the contractor will require that all construction covered by subparagraph, above, meet an industry-recognized standard that has achieved certification under at least one of the following programs (i) ENERGY STAR (Certified Homes or Multifamily High Rise); (ii) Enterprise Green Communities; (iii) LEED (NC, Homes, Midrise, Existing Buildings O&M, or Neighborhood Development); (iv) ICC-700 National Green Building Standard; (v) EPA Indoor AirPlus (ENERGY STAR a prerequisite); or (vi) any other equivalent comprehensive green building program, including regional programs. Standards for rehabilitation of non-substantially-damaged residential buildings: For rehabilitation other than that described in subparagraph, above, contractors must follow the guidelines specified in the HUD CPD Green Building Retrofit Checklist, available on the CPD Disaster Recovery Web site. Contractors must apply these guidelines to the extent applicable to the rehabilitation work undertaken, including the use of mold resistant products when replacing surfaces such as drywall. When older or obsolete products are replaced as part of the rehabilitation work, rehabilitation is required to use ENERGY STAR- labeled, WaterSense labeled, or federal Energy Management Program (FEMP)-designated products and appliances. Implementation: For construction projects completed under construction, or under contract prior to the date that federal assistance was approved for the project the contractor is encouraged to apply the applicable standards to the extent feasible but the Green Building Standard is not required; (ii) for specific which an ENERGY STAR-or-WaterSense-labeled or FEMP-designated product does not exist, the requirement to use such products does not apply. The City encourages contractors to implement green infrastructure policies to the extent practicable.

VIII. ADECA-FUNDED CONTRACTS: The Contractor shall include the following provisions in all construction contracts funded by the Alabama Department of Economic and Community Affairs (ADECA). For all ADECA-funded construction contracts, in the event the provisions contained in this section conflict with provisions contained elsewhere in this document, the provisions contained in this section shall prevail.

A. Section 109 Clause, Housing and Community Development Act of 1974. No person in the United States shall on the grounds of race, color, national origin or sex be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any program or activity funded in whole or in part with funds made available under this title.

B. Notice of Requirement for Affirmative Action to Ensure Equal Employment Opportunity (Executive Order 11246) (applicable to contract/subcontracts exceeding \$10,000). Contractor's attention is called to the "Equal Opportunity Clause" and the "Standard Federal Equal Employment Opportunity Construction Contract Specifications" set forth herein.

The goals and timetables for minority and female participation, expressed in percentage terms for the Contractor's aggregate workforce in each trade on all construction work in the covered area, are as follows:

Goals for	Goals for
Minority	Female
Participation	Participation
(Insert Goals)	(Insert Goals)

These goals are applicable to all the Contractor's construction work (whether or not it is Federal or Federally assisted) performed in the covered area. If the Contractor performs construction work in a geographic area located outside of the covered area, it shall apply the goals established for such geographic area where the work is actually performed. With regard to this second area, the Contractor also is subject to the goals for both its Federally involved and non-Federally involved construction.

The Contractor's compliance with the Executive Order and the regulations in 41 CFR Part 60-4 shall be based on its implementation of the Equal Opportunity Clause, specific affirmative action obligations required by the specifications set forth in 41 CFR 60-4.3(a), and its efforts to meet the goals established for the geographical area where the contract resulting from this solicitation is to be performed. The hours of minority and female employment and

training must be substantially uniform throughout the length of the contract, and in each trade, and the Contractor shall make a good faith effort to employ minorities and women evenly on each of its projects. The transfer of minority or female employees or trainees from Contractor to Contractor or from project to project for the sole purpose of meeting the Contractor's goals shall be a violation of the Contract, the Executive Order and the regulations in 41 CFR 60-4. Compliance with the goals will be measured against the total work hours performed.

C. "Section 3" Compliance in the Provision of Training, Employment and Business Opportunities.

1. The work to be performed under this Contract is a project assisted under a program providing direct Federal financial assistance from the Department of Housing and Urban Development and is subject to the requirements of Section 3 of the Housing and Urban Development Act of 1968, as amended, 12, U.S.C. 1701u. Section 3 requires that to the greatest extent feasible, opportunities for training and employment be given lower income residents of the project area and contracts for work in connection with the project be awarded to business concerns which are located in, or owned in substantial part by, persons residing in the area of the project.
2. The parties to this Contract will comply with the provisions of said Section 3 and the regulations issued pursuant thereto by the Secretary of Housing and Urban Development set forth in 24 CFR 135, and all applicable rules and orders of the Department issued thereunder prior to the execution of this Contract. The parties to this Contract certify and agree that they are under no contractual or other disability which would prevent them from complying with these requirements.
3. The Contractor will send to each labor organization or representative of workers with which he has a collective bargaining agreement or other contract or understanding, if any, a notice advising the said labor organization or workers' representative of this commitment under this Section 3 clause and shall post copies of the notice in conspicuous places available to employees and applicants for employment or training.
4. The Contractor will include this Section 3 clause in every subcontract for work in connection with the project and will, at the direction of the applicant for or recipient of Federal financial assistance, take appropriate action pursuant to the subcontract upon a finding that the Subcontractor is in violation of regulations issued by the Secretary of Housing and Urban Development, 24 CFR Part 135. The Contractor will not subcontract with any Subcontractor where it has notice or knowledge that the latter has been found in violation of regulations under 24 CFR Part 135 and will not let any subcontract unless the Subcontractor has first provided it with a preliminary statement of ability to comply with the requirements of these regulations.
5. Compliance with the provisions of Section 3, the regulations set forth in 24 CFR Part 135, and all applicable rules and orders of the Department issued hereunder prior to the execution of the Contract, shall be a condition of the Federal financial assistance provided to the project, binding upon the applicant or recipient for such assistance, its successors and assigns. Failure to fulfill these requirements shall subject the applicant or recipient, its contractors and subcontractors, its successors and assigns to those sanctions specified by the grant or loan agreement or contract through which Federal assistance is provided, and to such sanctions as are specified in 24 CFR Part 135.

D. Section 402 Veterans of the Vietnam Era (if \$10,000 or over). Affirmative Action for Disabled Veterans and Veterans of the Vietnam Era.

1. The Contractor will not discriminate against any employee or applicant for employment because he or she is a disabled veteran or veteran of the Vietnam era in regard to any

position for which the employee or applicant for employment is qualified. The Contractor agrees to take affirmative action to employ, advance in employment and otherwise treat qualified disabled veterans and veterans of the Vietnam era without discrimination based on their disability or veteran status in all employment practices such as the following: employment upgrading, demotion or transfer, recruitment, advertising, layoff or termination, rates of pay or other forms of compensation, and selection for training, including apprenticeship.

2. The Contractor agrees that all suitable employment openings of the Contractor which exist at the time of the execution of this Contract and those which occur during the performance of this Contract, including those not generated by this Contract and including those occurring at an establishment of the Contractor other than the one wherein the Contract is being performed but excluding those of independently operated corporate affiliates, shall be listed at an appropriate local office of the State employment service system wherein the opening occurs. The Contractor further agrees to provide such reports to such local office regarding employment openings and hires as may be required. State and local government agencies holding Federal contracts of \$10,000 or more shall also list all their suitable openings with the appropriate office of the State employment service, but are not required to provide those reports set forth in paragraphs 4 and 5.
3. Listing of employment openings with the employment service system pursuant to this clause shall be made at least concurrently with the use of any other recruitment source or effort and shall involve the normal obligations which attach to the placing of a bona fide job order, including the acceptance of referrals of veterans and non-veterans. The listing of employment openings does not require the hiring of any particular job applicant or from any particular group of job applicants, and nothing herein is intended to relieve the Contractor from any requirements in Executive Orders or regulations regarding nondiscrimination in employment.
4. The reports required by paragraph 2 of this clause shall include, but not be limited to, periodic reports which shall be filed at least quarterly with the appropriate local office or, where the Contractor has more than one hiring location in a State, with the central office of that State employment service. Such reports shall indicate for each hiring location (1) the number of individuals hired during the reporting period, (2) the number of nondisabled veterans of the Vietnam era hired, (3) the number of disabled veterans of the Vietnam era hired, and (4) the total number of disabled veterans hired. The reports should include covered veterans hired for on-the-job training under 38 U.S.C.1787. The Contractor shall submit a report within 30 days after the end of each reporting period wherein any performance is made on this Contract identifying data for each hiring location copies of the reports submitted until the expiration of one year after final payment under the Contract, during which time these reports and related documentation shall be made available, upon request, for examination by any authorized representatives of the contracting officer or of the Secretary of Labor. Documentation would include personnel records respecting job openings, recruitment and placement.
5. Whenever the Contractor becomes contractually bound to the listing provisions of this clause, it shall advise the employment service system in each State where it has establishments of the name and location of each hiring location in the State. As long as the Contractor is contractually bound to these provisions and has so advised the State system, there is no need to advise the State system of subsequent contracts. The Contractor may

- advise the State system when it is no longer bound by the contract clause.
6. This clause does not apply to the listing of employment openings which occur and are filled outside of the 50 states, the District of Columbia, Puerto Rico, Guam and the Virgin Islands.
 7. The provisions of paragraphs 2, 3, 4 and 5 of this clause do not apply to openings which the Contractor proposes to fill from within his own organization or to fill pursuant to a customary and traditional employer-union hiring arrangement. This exclusion does not apply to a particular opening once an employer decides to consider applicants outside of his own organization or employer-union arrangement for that opening.
 8. As used in this clause:
 - a. "All suitable employment openings" includes, but is not limited to, openings which occur in the following job categories: production and nonproduction; plant and office; laborers and mechanics; supervisory and nonsupervisory; technical; and executive, administrative, and professional openings that are compensated on a salary basis of less than \$25,000 per year. This term includes full-time employment, temporary employment of more than three days' duration, and part-time employment. It does not include openings which the Contractor proposes to fill from within his own organization or to fill pursuant to a customary and traditional employer-union hiring arrangement nor openings in an educational institution which are restricted to students of that institution. Under the most compelling circumstances an employment opening may not be suitable for listing, including such situations where the needs of the Government cannot reasonably be otherwise supplied, where listing would be contrary to national security, or where the requirement of listing would otherwise not be for the best interest of the Government.
 - b. "Appropriate office of the State employment service system" means the local office of the Federal-State national system of public employment offices with assigned responsibility for serving the area where the employment opening is to be filled, including the District of Columbia, Guam, Puerto Rico and the Virgin Islands.
 - c. "Openings which the Contractor proposes to fill from within his own organization" means employment openings for which no consideration will be given to persons outside the Contractor's organization (including any affiliates, subsidiaries, and the parent companies) and includes any openings which the Contractor proposed to fill from regularly established "recall" lists.
 - d. "Openings which the Contractor proposes to fill pursuant to customary and traditional employer-union hiring arrangements" means employment openings which the Contractor proposes to fill from union halls, which is part of the customary and traditional hiring relationship which exists between the Contractor and representatives of his employees.
 9. The Contractor agrees to comply with the rules, regulations and relevant orders of the Secretary of Labor issued pursuant to the Act.
 10. In the event of the Contractor's non-compliance with the requirements of this clause, actions for non-compliance may be taken in accordance with the rules, regulations and relevant orders of the Secretary of Labor issued pursuant to the Act.
 11. The Contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices in a form to be prescribed by the Director, provided by

or through the contracting officer. Such notice shall state the Contractor's obligation under the law to take affirmative action to employ and advance in employment qualified disabled veterans and veterans of the Vietnam era for employment, and the rights of applicants and employees.

12. The Contractor will notify each labor union or representative of workers with which it has a collective bargaining agreement or other contract understanding, that the Contractor is bound by the terms of the Vietnam Era Veterans Readjustment Assistance Act, and is committed to take affirmative action to employ and advance in employment qualified disabled veterans and veterans of the Vietnam era.
13. The Contractor will include the provisions of this clause in every subcontract or purchase order of \$10,000 or more unless exempted by rules, regulations or orders of the Secretary issued pursuant to the Act, so that such provisions will be binding upon each Subcontractor or vendor. The Contractor will take such action with respect to any subcontractor or purchase order as the Director of the Office of Federal Contract Compliance Programs may direct to enforce such provisions, including action for non-compliance.

E. Certification of Compliance with Air and Water Acts (applicable to Federally assisted construction contracts and related subcontracts exceeding \$100,000). Compliance with Air and Water Acts. During the performance of this Contract, the Contractor and all Subcontractors shall comply with the requirements of the Clean Air Act, as amended, 42 USC 1857 et seq., the Federal Water Pollution Contract Act, as amended, 33 USC 1251 et seq., and the regulations of the Environmental Protection Agency with respect thereto, at 40 CFR Part 15, as amended. In addition to the foregoing requirements, all nonexempt Contractors and Subcontractors shall furnish to the Owner, the following:

1. A stipulation by the Contractor or Subcontractors that any facility to be utilized in the performance of any nonexempt contract or subcontract is not listed on the List of Violating Facilities issued by the Environmental Protection Agency (EPA) pursuant to 40 CFR 15.20.
2. Agreement by the Contractor to comply with all the requirements of Section 114 of the Clean Air Act, as amended, (42 USC 1857c-8) and Section 308 of the Federal Water Pollution Control Act, as amended, (33 USC 1318) relating to inspection, monitoring, entry, reports and information, as well as all other requirements specified in said Section 114 and Section 308, and all regulations and guidelines issued thereunder.
3. A stipulation that as a condition for the Contract, prompt notice will be given of any notification received from the Director, Office of Federal Activities, or EPA indicating that a facility utilized, or to be utilized for the Contract, is under consideration to be listed on the EPA List of Violating Facilities.
4. Agreement by the Contractor that he will include, or cause to be included, the criteria and requirements in paragraphs A through D of this section in every nonexempt subcontract and requiring that the Contractor will take such actions as the Government may direct as a means of enforcing such provisions.

F. Compliance with Copeland Act Requirements. The contractor shall comply with the requirements of 29 CFR Part 3 which are incorporated by reference in this contract.

G. Drug-Free Workplace Requirements. The Drug-Free Workplace Act of 1988 (42 U.S.C. 701) requires grantees (including individuals) of federal agencies, as a prior condition of being awarded a grant, to certify that they will provide drug-free workplaces. Each potential recipient must certify that it will comply with drug-free workplace requirements in accordance with the Act and with HUD's rules at 24 CFR part 24, subpart F.

H. Byrd Anti-Lobbying Amendment (31 U.S.C. 1352). Contractors who apply or bid for an

award of \$100,000 or more shall file the required certification. Each tier certifies to the tier above that it will not and has not used Federal appropriated funds to pay any person or organization for influencing or attempting to influence an officer or employee of any agency, a member of Congress, officer or employee of Congress, or an employee of a member of Congress in connection with obtaining any Federal contract, grant or any other award covered by 31 U.S.C. 1352. Each tier shall also disclose any lobbying with non-Federal funds that takes place in connection with obtaining any Federal award. Such disclosures are forwarded from tier to tier up to the recipient.

IV. DISASTER RECOVERY FUNDED CONTRACTS:___ The Contractor shall include the following provisions in all Disaster Recover (DR) funded construction contracts. For all DR-funded construction contracts, in the event the provisions contained in this section conflict with provisions contained elsewhere in this document, the provisions contained in this section shall prevail.

A. The Contractor agrees to abide by all applicable Federal regulations in receiving, disbursing and accounting for Community Development Block Grant funds including, but not limited to all applicable sections of 24 CFR 570.

B. ADA Compliance. The Contractor hereby covenants and agrees that, in performing its responsibilities and obligations hereunder, the Contractor, its officers, agents or employees will not, on the grounds of race, color, sex, religion, national origin, disability or age, discriminate or permit discrimination against any person or groups of persons in any manner. The Contractor further agrees to comply with all applicable State and Federal ordinances and regulations, including but not limited to, the Rehabilitation Act of 1973, the Americans with Disabilities Act (ADA), the Civil Rights Act of 1964 and any regulations promulgated there under.

C. Section 3 Compliance. The work to be performed under this contract is subject to the requirements of Section 3 of the Housing and Urban Development Act of 1968, as amended, 12 U.S.C. 1701u (Section 3). The purpose of section 3 is to ensure that employment and other economic opportunities generated by HUD assistance or HUD-assisted projects covered by section 3, shall, to the greatest extent feasible, be directed to low- and very low-income persons, particularly persons who are recipients of HUD assistance for housing. The parties to this contract agree to comply with HUD's regulations in 24 CFR Part 135, which implement section 3. As evidenced by their execution of this contract, the parties to this contract certify that they are under no contractual or other impediment that would prevent them from complying with the part 135 regulations. Contractor agrees to send to each labor organization or representative of workers with which the Contractor has a collective bargaining agreement or other understanding, if any, a notice advising the labor organization or workers' representative of the Contractor's commitments under this section 3 clause, and will post copies of the notice in conspicuous places at the work site where both employees and applicants for training and employment positions can see the notice. The notice shall describe the section 3 preference, shall set forth minimum number and job titles subject to hire, availability of apprenticeship and training positions, the qualifications for each; and the name and location of the person(s) taking applications for each of the positions; and the anticipated date the work shall begin. Contractor agrees to include this section 3 clause in every subcontract subject to compliance with regulations in 24 CFR Part 135, and agrees to take appropriate action, as provided in an applicable provision of the subcontract or in this section 3 clause, upon a finding that the subcontractor is in violation of the regulations in 24 CFR Part 135. Contractor will not subcontract with any subcontractor where the Contractor has notice or knowledge that the subcontractor has been found in violation of the regulations in 24 CFR Part 135. Contractor will certify that any vacant employment positions, including training positions, that are filled (1) after Contractor is selected by before the contract is executed, and (2) with persons other than those to whom the regulations of 24 CFR part 135 require employment opportunities to be directed, were not filled to circumvent the Contractor's obligations under 24 CFR part 135. Noncompliance with HUD's regulations in 24 CFR Part 135 may result in sanctions, termination of this contract for default, and debarment or suspension from future HUD assisted contracts.

D. Section 109 Compliance. No person in the United States will, on the ground of race, color, national origin, religion, or sex, be excluded from participation in, be denied the benefits of, or be subjected to discrimination

under any program or activity administered or provided under this Agreement, pursuant to Section 109 of title I of the Housing and Community Development Act of 1974 (Title I) (42 U.S.C. 5309).

E. Section 402 Compliance. Contractors and subcontractors shall take affirmative action to employ and advance in employment qualified covered veterans. Disabled veterans, recently separated veterans (veterans within 3 years of their discharge or release from active duty), veterans who served on active duty during a war or in a campaign or expedition for which a campaign badge has been authorized (referred to as "other protected veterans"), and Armed Forces service medal veterans are covered veterans under VEVRAA, pursuant to the Vietnam Era Veterans' Readjustment Assistance Act of 1974, as amended (VEVRAA).

F. Copeland Anti-Kickback Act Compliance. Pursuant to The Copeland "Anti-Kickback" Act, 40 USC §3145 and 18 USC §874, no contractor or subcontractor operating under this agreement shall induce an employee to give up any part of the compensation to which he or she is entitled under his or her contract of employment. Contractors and subcontractors shall submit a weekly statement of the wages paid to each employee performing on covered work during the preceding payroll period.

G. Affirmative Action. During the performance of this contract, the contractors and subcontractors operating under this agreement shall not discriminate against any employee or applicant for employment because of race, color, religion, sex, or national origin. The Contractor will take affirmative action to ensure that applicants are employed, and that employees are treated during employment, without regard to their race, color, religion, sex, or national origin. Contractors and subcontractors operating under this agreement shall comply with Affirmative Action laws and regulations to ensure equal employment opportunities, including, but not limited to 41 CFR Part 60-1; 41 CFR Part 60-2; 41 CFR Part 60-250; 41 CFR Part 60-741; compliance with E.O. 11246, "Equal Employment Opportunity," as amended by E.O. 11375, "Amending Executive Order 11246 Relating to Equal Employment Opportunity."

H. Compliance with Goals for Minority and Female Participation. The City of Tuscaloosa has voluntarily adopted a Minority / Disadvantaged Business Enterprise ("MBE/DBE/WBE") Program designed to encourage the participation and development of minority and disadvantaged business enterprises and to promote equal business opportunities to the fullest extent allowed by state and federal law. It is the intent of the City to foster competition among contractors, suppliers, and vendors that will result in better quality and more economical services rendered to the City. Under this policy, the City of Tuscaloosa has established a goal of ten to twenty percent (10-20%) inclusion of minority and disadvantaged business enterprises for all services required to deliver City projects. In no case shall the stated percentage be the determining factor in contract awards. Rather, contractors must demonstrate a good faith effort to attain the desired percentage goal. The Developer is encouraged to adopt corresponding goals to those of the City's Minority / Disadvantaged Business Enterprise ("MBE/DBE/WBE") Program.

I. Compliance with Environmental Laws; including The Clean Air Act and Clean Water Act. Contractors and subcontractors operating under this agreement shall be responsible for ensuring compliance with Federal, State, or local pollution control laws and related requirements, including but not limited to the Clean Air Act (42 U.S.C. 7401 et seq.) and the Federal Water Pollution Control Act as amended (33 U.S.C. 1251 et seq.). If a contracting officer becomes aware of noncompliance with clean air or water standards in facilities used in performing nonexempt contracts, that contracting officer shall notify the agency head, or a designee, who shall promptly notify the EPA Administrator or a designee in writing.

J. Byrd Anti-Lobbying Agreement. Contractors operating under this agreement shall file the required certification under the Byrd Anti-Lobbying Amendment (31 U.S.C. 1352). Each tier certifies to the tier above that it will not and has not used Federal appropriated funds to pay any person or organization for influencing or attempting to influence an officer or employee of any agency, a member of Congress, officer or employee of Congress, or an employee of a member of Congress in connection with obtaining any Federal contract, grant or any other award covered by 31 U.S.C. 1352. Each tier shall also disclose any lobbying with non-Federal funds that takes place in connection with obtaining any Federal award. Such disclosures are forwarded from tier to tier up to the recipient.

K. HUD Form 4010 See next page.

Federal Labor Standards Provisions

U.S. Department of Housing and Urban Development Office of Labor Relations

Applicability

The Project or Program to which the construction work covered by this contract pertains is being assisted by the United States of America and the following Federal Labor Standards Provisions are included in this Contract pursuant to the provisions applicable to such Federal assistance.

A. 1. (i) **Minimum Wages.** All laborers and mechanics employed or working upon the site of the work, will be paid unconditionally and not less often than once a week, and without subsequent deduction or rebate on any account (except such payroll deductions as are permitted by regulations issued by the Secretary of Labor under the Copeland Act (29 CFR Part 3), the full amount of wages and bona fide fringe benefits (or cash equivalents thereof) due at time of payment computed at rates not less than those contained in the wage determination of the Secretary of Labor which is attached hereto and made a part hereof, regardless of any contractual relationship which may be alleged to exist between the contractor and such laborers and mechanics. Contributions made or costs reasonably anticipated for bona fide fringe benefits under Section 1(b)(2) of the Davis-Bacon Act on behalf of laborers or mechanics are considered wages paid to such laborers or mechanics, subject to the provisions of 29 CFR 5.5(a)(1)(iv); also, regular contributions made or costs incurred for more than a weekly period (but not less often than quarterly) under plans, funds, or programs, which cover the particular weekly period, are deemed to be constructively made or incurred during such weekly period.

Such laborers and mechanics shall be paid the appropriate wage rate and fringe benefits on the wage determination for the classification of work actually performed, without regard to skill, except as provided in 29 CFR 5.5(a)(4). Laborers or mechanics performing work in more than one classification may be compensated at the rate specified for each classification for the time actually worked therein; Provided, That the employer's payroll records accurately set forth the time spent in each classification in which work is performed. The wage determination (including any additional classification and wage rates conformed under 29 CFR 5.5(a)(1)(ii) and the Davis-Bacon poster (WH-1321) shall be posted at all times by the contractor and its subcontractors at the site of the work in a prominent and accessible, place where it can be easily seen by the workers.

(ii) (a) Any class of laborers or mechanics which is not listed in the wage determination and which is to be employed under the contract shall be classified in conformance with the wage determination. HUD shall approve an additional classification and wage rate and fringe benefits therefor only when the following criteria have been met:

(1) The work to be performed by the classification requested is not performed by a classification in the wage determination; and

(2) The classification is utilized in the area by the construction industry; and

(3) The proposed wage rate, including any bona fide fringe benefits, bears a reasonable relationship to the wage rates contained in the wage determination.

(b) If the contractor and the laborers and mechanics to be employed in the classification (if known), or their representatives, and HUD or its designee agree on the classification and wage rate (including the amount designated for fringe benefits where appropriate), a report of the action taken shall be sent by HUD or its designee to the Administrator of the Wage and Hour Division, Employment Standards Administration, U.S. Department of Labor, Washington, D.C. 20210. The Administrator, or an authorized representative, will approve, modify, or disapprove every additional classification action within 30 days of receipt and so advise HUD or its designee or will notify HUD or its designee within the 30-day period that additional time is necessary. (Approved by the Office of Management and Budget under OMB control number 1215-0140.)

(c) In the event the contractor, the laborers or mechanics to be employed in the classification or their representatives, and HUD or its designee do not agree on the proposed classification and wage rate (including the amount designated for fringe benefits, where appropriate), HUD or its designee shall refer the questions, including the views of all interested parties and the recommendation of HUD or its designee, to the Administrator for determination. The Administrator, or an authorized representative, will issue a determination within 30 days of receipt and so advise HUD or its designee or will notify HUD or its designee within the 30-day period that additional time is necessary. (Approved by the Office of Management and Budget under OMB Control Number 1215-0140.)

(d) The wage rate (including fringe benefits where appropriate) determined pursuant to subparagraphs (1)(ii)(b) or (c) of this paragraph, shall be paid to all workers performing work in the classification under this contract from the first day on which work is performed in the classification.

(iii) Whenever the minimum wage rate prescribed in the contract for a class of laborers or mechanics includes a fringe benefit which is not expressed as an hourly rate, the contractor shall either pay the benefit as stated in the wage determination or shall pay another bona fide fringe benefit or an hourly cash equivalent thereof.

(iv) If the contractor does not make payments to a trustee or other third person, the contractor may consider as part

of the wages of any laborer or mechanic the amount of any costs reasonably anticipated in providing bona fide fringe benefits under a plan or program, Provided, That the Secretary of Labor has found, upon the written request of the contractor, that the applicable standards of the Davis-Bacon Act have been met. The Secretary of Labor may require the contractor to set aside in a separate account assets for the meeting of obligations under the plan or program. (Approved by the Office of Management and Budget under OMB Control Number 1215-0140.)

2. **Withholding.** HUD or its designee shall upon its own action or upon written request of an authorized representative of the Department of Labor withhold or cause to be withheld from the contractor under this contract or any other Federal contract with the same prime contractor, or any other Federally-assisted contract subject to Davis-Bacon prevailing wage requirements, which is held by the same prime contractor so much of the accrued payments or advances as may be considered necessary to pay laborers and mechanics, including apprentices, trainees and helpers, employed by the contractor or any subcontractor the full amount of wages required by the contract in the event of failure to pay any laborer or mechanic, including any apprentice, trainee or helper, employed or working on the site of the work, all or part of the wages required by the contract, HUD or its designee may, after written notice to the contractor, sponsor, applicant, or owner, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds until such violations have ceased. HUD or its designee may, after written notice to the contractor, disburse such amounts withheld for and on account of the contractor or subcontractor to the respective employees to whom they are due. The Comptroller General shall make such disbursements in the case of direct Davis-Bacon Act contracts.

3. (1) **Payrolls and basic records.** Payrolls and basic records relating thereto shall be maintained by the contractor during the course of the work preserved for a period of three years thereafter for all laborers and mechanics working at the site of the work. Such records shall contain the name, address, and social security number of each such worker, his or her correct classification, hourly rates of wages paid (including rates of contributions or costs anticipated for bona fide fringe benefits or cash equivalents thereof of the types described in Section 1(b)(2)(B) of the Davis-bacon Act), daily and weekly number of hours worked, deductions made and actual wages paid. Whenever the Secretary of Labor has found under 29 CFR 5.5 (a)(1)(iv) that the wages of any laborer or mechanic include the amount of any costs reasonably anticipated in providing benefits under a plan or program described in Section 1(b)(2)(B) of the Davis-Bacon Act, the contractor shall maintain records which show that the commitment to provide such benefits is enforceable, that the plan or program is financially responsible, and that the plan or program has been

communicated in writing to the laborers or mechanics affected, and records which show the costs anticipated or the actual cost incurred in providing such benefits. Contractors employing apprentices or trainees under approved programs shall maintain written evidence of the registration of apprenticeship programs and certification of trainee programs, the registration of the apprentices and trainees, and the ratios and wage rates prescribed in the applicable programs. (Approved by the Office of Management and Budget under OMB Control Numbers 1215-0140 and 1215-0017.)

(ii) (a) The contractor shall submit weekly for each week in which any contract work is performed a copy of all payrolls to HUD or its designee if the agency is a party to the contract, but if the agency is not such a party, the contractor will submit the payrolls to the applicant sponsor, or owner, as the case may be, for transmission to HUD or its designee. The payrolls submitted shall set out accurately and completely all of the information required to be maintained under 29 CFR 5.5(a)(3)(i) except that full social security numbers and home addresses shall not be included on weekly transmittals. Instead the payrolls shall only need to include an individually identifying number for each employee (e.g., the last four digits of the employee's social security number). The required weekly payroll information may be submitted in any form desired. Optional Form WH-347 is available for this purpose from the Wage and Hour Division Web site at <http://www.dol.gov/esa/whd/forms/wh347instr.htm> or its successor site. The prime contractor is responsible for the submission of copies of payrolls by all subcontractors. Contractors and subcontractors shall maintain the full social security number and current address of each covered worker, and shall provide them upon request to HUD or its designee if the agency is a party to the contract, but if the agency is not such a party, the contractor will submit the payrolls to the applicant sponsor, or owner, as the case may be, for transmission to HUD or its designee, the contractor, or the Wage and Hour Division of the Department of Labor for purposes of an investigation or audit of compliance with prevailing wage requirements. It is not a violation of this subparagraph for a prime contractor to require a subcontractor to provide addresses and social security numbers to the prime contractor for its own records, without weekly submission to HUD or its designee. (Approved by the Office of Management and Budget under OMB Control Number 1215-0149.)

(b) Each payroll submitted shall be accompanied by a "Statement of Compliance," signed by the contractor or subcontractor or his or her agent who pays or supervises the payment of the persons employed under the contract and shall certify the following:

(1) That the payroll for the payroll period contains the information required to be provided under 29 CFR 5.5 (a)(3)(ii), the appropriate information is being maintained under 29 CFR 5.5(a)(3)(i), and that such information is correct and complete;

(2) That each laborer or mechanic (including each helper, apprentice, and trainee) employed on the contract during the payroll period has been paid the full weekly wages earned, without rebate, either directly or indirectly, and that no deductions have been made either directly or indirectly from the full wages earned, other than permissible deductions as set forth in 29 CFR Part 3;

(3) That each laborer or mechanic has been paid not less than the applicable wage rates and fringe benefits or cash equivalents for the classification of work performed, as specified in the applicable wage determination incorporated into the contract.

(c) The weekly submission of a properly executed certification set forth on the reverse side of Optional Form WH-347 shall satisfy the requirement for submission of the "Statement of Compliance" required by subparagraph A.3.(II)(b).

(d) The falsification of any of the above certifications may subject the contractor or subcontractor to civil or criminal prosecution under Section 1001 of Title 18 and Section 231 of Title 31 of the United States Code.

(III) The contractor or subcontractor shall make the records required under subparagraph A.3.(i) available for inspection, copying, or transcription by authorized representatives of HUD or its designee or the Department of Labor, and shall permit such representatives to interview employees during working hours on the job. If the contractor or subcontractor fails to submit the required records or to make them available, HUD or its designee may, after written notice to the contractor, sponsor, applicant or owner, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds. Furthermore, failure to submit the required records upon request or to make such records available may be grounds for debarment action pursuant to 29 CFR 5.12.

4. Apprentices and Trainees.

(I) Apprentices. Apprentices will be permitted to work at less than the predetermined rate for the work they performed when they are employed pursuant to and individually registered in a bona fide apprenticeship program registered with the U.S. Department of Labor, Employment and Training Administration, Office of Apprenticeship Training, Employer and Labor Services, or with a State Apprenticeship Agency recognized by the Office, or if a person is employed in his or her first 90 days of probationary employment as an apprentice in such an apprenticeship program, who is not individually registered in the program, but who has been certified by the Office of Apprenticeship Training, Employer and Labor Services or a State Apprenticeship Agency (where appropriate) to be eligible for probationary employment as an apprentice. The allowable ratio of apprentices to journeymen on the job site in any craft classification shall not be greater than the ratio permitted to the contractor as to the entire work force under the registered program. Any worker listed on a payroll at an apprentice wage rate, who

is not registered or otherwise employed as stated above, shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any apprentice performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. Where a contractor is performing construction on a project in a locality other than that in which its program is registered, the ratios and wage rates (expressed in percentages of the journeyman's hourly rate) specified in the contractor's or subcontractor's registered program shall be observed. Every apprentice must be paid at not less than the rate specified in the registered program for the apprentice's level of progress, expressed as a percentage of the journeymen hourly rate specified in the applicable wage determination. Apprentices shall be paid fringe benefits in accordance with the provisions of the apprenticeship program. If the apprenticeship program does not specify fringe benefits, apprentices must be paid the full amount of fringe benefits listed on the wage determination for the applicable classification. If the Administrator determines that a different practice prevails for the applicable apprentice classification, fringes shall be paid in accordance with that determination. In the event the Office of Apprenticeship Training, Employer and Labor Services, or a State Apprenticeship Agency recognized by the Office, withdraws approval of an apprenticeship program, the contractor will no longer be permitted to utilize apprentices at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

(II) Trainees. Except as provided in 29 CFR 5.16, trainees will not be permitted to work at less than the predetermined rate for the work performed unless they are employed pursuant to and individually registered in a program which has received prior approval, evidenced by formal certification by the U.S. Department of Labor, Employment and Training Administration. The ratio of trainees to journeymen on the job site shall not be greater than permitted under the plan approved by the Employment and Training Administration. Every trainee must be paid at not less than the rate specified in the approved program for the trainee's level of progress, expressed as a percentage of the journeyman hourly rate specified in the applicable wage determination. Trainees shall be paid fringe benefits in accordance with the provisions of the trainee program. If the trainee program does not mention fringe benefits, trainees shall be paid the full amount of fringe benefits listed on the wage determination unless the Administrator of the Wage and Hour Division determines that there is an apprenticeship program associated with the corresponding journeyman wage rate on the wage determination which provides for less than full fringe benefits for apprentices. Any employee listed on the payroll at a trainee rate who is not registered and participating in a training plan approved by

Previous editions are obsolete

the Employment and Training Administration shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. In addition, any trainee performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. In the event the Employment and Training Administration withdraws approval of a training program, the contractor will no longer be permitted to utilize trainees at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

(iii) **Equal employment opportunity.** The utilization of apprentices, trainees and journeymen under 29 CFR Part 5 shall be in conformity with the equal employment opportunity requirements of Executive Order 11246, as amended, and 29 CFR Part 30.

5. Compliance with Copeland Act requirements. The contractor shall comply with the requirements of 29 CFR Part 3 which are incorporated by reference in this contract

6. Subcontracts. The contractor or subcontractor will insert in any subcontracts the clauses contained in subparagraphs 1 through 11 in this paragraph A and such other clauses as HUD or its designee may by appropriate instructions require, and a copy of the applicable prevailing wage decision, and also a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The prime contractor shall be responsible for the compliance by any subcontractor or lower tier subcontractor with all the contract clauses in this paragraph.

7. Contract termination; debarment. A breach of the contract clauses in 29 CFR 5.5 may be grounds for termination of the contract and for debarment as a contractor and a subcontractor as provided in 29 CFR 5.12.

8. Compliance with Davis-Bacon and Related Act Requirements. All rulings and interpretations of the Davis-Bacon and Related Acts contained in 29 CFR Parts 1, 3, and 5 are herein incorporated by reference in this contract

9. Disputes concerning labor standards. Disputes arising out of the labor standards provisions of this contract shall not be subject to the general disputes clause of this contract. Such disputes shall be resolved in accordance with the procedures of the Department of Labor set forth in 29 CFR Parts 5, 6, and 7. Disputes within the meaning of this clause include disputes between the contractor (or any of its subcontractors) and HUD or its designee, the U.S. Department of Labor, or the employees or their representatives.

10. (i) Certification of Eligibility. By entering into this contract the contractor certifies that neither it (nor he or she) nor any person or firm who has an interest in the contractor's firm is a person or firm ineligible to be awarded Government contracts by virtue of Section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1) or to be

awarded HUD contracts or participate in HUD programs pursuant to 24 CFR Part 24.

(ii) No part of this contract shall be subcontracted to any person or firm ineligible for award of a Government contract by virtue of Section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1) or to be awarded HUD contracts or participate in HUD programs pursuant to 24 CFR Part 24.

(iii) The penalty for making false statements is prescribed in the U.S. Criminal Code, 18 U.S.C. 1001. Additionally, U.S. Criminal Code, Section 1010, Title 18, U.S.C., "Federal Housing Administration transactions", provides in part: "Whoever, for the purpose of . . . influencing in any way the action of such Administration . . . makes, utters or publishes any statement knowing the same to be false . . . shall be fined not more than \$5,000 or imprisoned not more than two years, or both."

11. Complaints, Proceedings, or Testimony by Employees. No laborer or mechanic to whom the wage, salary, or other labor standards provisions of this Contract are applicable shall be discharged or in any other manner discriminated against by the Contractor or any subcontractor because such employee has filed any complaint or instituted or caused to be instituted any proceeding or has testified or is about to testify in any proceeding under or relating to the labor standards applicable under this Contract to his employer.

B. Contract Work Hours and Safety Standards Act. The provisions of this paragraph B are applicable where the amount of the prime contract exceeds \$100,000. As used in this paragraph, the terms "laborers" and "mechanics" include watchmen and guards.

(1) Overtime requirements. No contractor or subcontractor contracting for any part of the contract work which may require or involve the employment of laborers or mechanics shall require or permit any such laborer or mechanic in any workweek in which the individual is employed on such work to work in excess of 40 hours in such workweek unless such laborer or mechanic receives compensation at a rate not less than one and one-half times the basic rate of pay for all hours worked in excess of 40 hours in such workweek.

(2) Violation; liability for unpaid wages; liquidated damages. In the event of any violation of the clause set forth in subparagraph (1) of this paragraph, the contractor and any subcontractor responsible therefor shall be liable for the unpaid wages. In addition, such contractor and subcontractor shall be liable to the United States (in the case of work done under contract for the District of Columbia or a territory, to such District or to such territory), for liquidated damages. Such liquidated damages shall be computed with respect to each individual laborer or mechanic, including watchmen and guards, employed in violation of the clause set forth in subparagraph (1) of this paragraph, in the sum of \$10 for each calendar day on which such individual was required or permitted to work in excess of the standard workweek of 40 hours without payment of the overtime wages required by the clause set forth in subparagraph (1) of this paragraph.

(3) **Withholding for unpaid wages and liquidated damages.** HUD or its designee shall upon its own action or upon written request of an authorized representative of the Department of Labor withhold or cause to be withheld, from any moneys payable on account of work performed by the contractor or subcontractor under any such contract or any other Federal contract with the same prime contract, or any other Federally-assisted contract subject to the Contract Work Hours and Safety Standards Act which is held by the same prime contractor such sums as may be determined to be necessary to satisfy any liabilities of such contractor or subcontractor for unpaid wages and liquidated damages as provided in the clause set forth in subparagraph (2) of this paragraph.

(4) **Subcontracts.** The contractor or subcontractor shall insert in any subcontracts the clauses set forth in subparagraph (1) through (4) of this paragraph and also a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The prime contractor shall be responsible for compliance by any subcontractor or lower tier subcontractor with the clauses set forth in subparagraphs (1) through (4) of this paragraph.

C. Health and Safety. The provisions of this paragraph C are applicable where the amount of the prime contract exceeds \$100,000.

(1) No laborer or mechanic shall be required to work in surroundings or under working conditions which are unsanitary, hazardous, or dangerous to his health and safety as determined under construction safety and health standards promulgated by the Secretary of Labor by regulation.

(2) The Contractor shall comply with all regulations issued by the Secretary of Labor pursuant to Title 29 Part 1926 and failure to comply may result in imposition of sanctions pursuant to the Contract Work Hours and Safety Standards Act, (Public Law 91-54, 83 Stat 96). 40 USC 3701 et seq.

(3) The contractor shall include the provisions of this paragraph in every subcontract so that such provisions will be binding on each subcontractor. The contractor shall take such action with respect to any subcontractor as the Secretary of Housing and Urban Development or the Secretary of Labor shall direct as a means of enforcing such provisions.

L. Davis Bacon-Wage Rates

General Decision Number: AL160002 01/08/2016 AL2

Street Reconstruction

Superseded General Decision Number: AL20150002

State: Alabama

Construction Type: Highway

Counties: Blount, Calhoun, Etowah, Shelby, St Clair and Tuscaloosa Counties in Alabama.

HIGHWAY CONSTRUCTION PROJECTS (excluding tunnels, bulding structures in rest areas projec, and railroad construction; bascule, suspension & spandrel arch bridges desgned for commercial navigation; bridges involving marine construction; other major bridges)

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

Modification Number	Publication Date
0	01/08/2016

* SUAL2011-001 01/04/2011

	Rates	Fringes
Carpenter.....	\$ 13.88	
Concrete finisher.....	\$ 13.26	
Electrician.....	\$ 19.73	

Laborers:

Asphalt Raker.....	\$ 11.23
Concrete Laborer.....	\$ 10.84
Grade Checker.....	\$ 12.58
Guardrail Erector.....	\$ 12.47
Pipe Layer.....	\$ 12.58
Side Rail/Form Setter.....	\$ 11.97
Traffic Control Specialist..	\$ 11.27
Unskilled.....	\$ 9.84

Power equipment operators:

Aggregate Spreader.....	\$ 14.17
Asphalt Distributor.....	\$ 14.27
Asphalt Paver.....	\$ 11.85
Asphalt Spreader.....	\$ 13.65

Backhoe, Clamshell, Dragline, and Shovel.....	\$ 15.87
Broom (Sweeper).....	\$ 11.68
Bulldozer.....	\$ 14.73
Crane & Derrick.....	\$ 20.63
Front End Loader.....	\$ 13.38
Mechanic.....	\$ 17.54
Milling Machine.....	\$ 12.31
Motor Grader and Motor Patrol.....	\$ 16.10
Oiler/Greaseman.....	\$ 13.33
Roller (Self-Propelled).....	\$ 12.38
Scraper.....	\$ 13.00
Striping Machine.....	\$ 15.20
Track Hoe/Excavator.....	\$ 14.64
Tractor and Loader (farm rubber tired).....	\$ 11.40
Tractor/Loader (all other work).....	\$ 11.22

Truck drivers:

Multi-Rear Axle.....	\$ 12.25
Single Rear Axle.....	\$ 11.54

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

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

The body of each wage determination lists the classification and wage rates that have been found to be prevailing for the cited type(s) of construction in the area covered by the wage determination. The classifications are listed in alphabetical order of "identifiers" that indicate whether the particular rate is a union rate (current union negotiated rate for local), a survey rate (weighted average rate) or a union average rate (weighted union average rate).

Union Rate Identifiers

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

the wage determination. 07/01/2014 is the effective date of the most current negotiated rate, which in this example is July 1, 2014.

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

Survey Rate Identifiers

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

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

Union Average Rate Identifiers

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

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

WAGE DETERMINATION APPEALS PROCESS

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

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

On survey related matters, initial contact, including requests

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

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

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

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

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

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

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

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

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

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END OF GENERAL DECISION





ALABAMA DEPARTMENT OF REVENUE
 SALES AND USE TAX DIVISION
 P.O. Box 327710 • Montgomery, AL 36132-7710

ST. EXC-01
 6/14

Application For
 Sales and Use Tax Certificate of Exemption
 FOR GOVERNMENT ENTITY PROJECT

This Certificate of Exemption will be limited to purchases which qualify for an exemption of sales and use taxes pursuant to Rule No. 810-6-3-77

PROJECT INFORMATION:

PROJECT NAME		PROJECT OWNER'S FEIN (EXEMPT ENTITY)	
STREET ADDRESS OF PROJECT (CITY AND COUNTY INCLUDED)	CITY	ZIP	COUNTY

APPLICANT'S INFORMATION:

RELATION: (CHOOSE ONE)		NAICS CODE
<input type="checkbox"/> Exempt Entity <input type="checkbox"/> General Contractor <input type="checkbox"/> Sub-Contractor		
APPLICANT'S LEGAL NAME		FEIN
DBA		CONSUMER'S USE TAX ACCOUNT NUMBER
MAILING ADDRESS		
CONTACT PERSON		BUSINESS TELEPHONE NUMBER ()
ESTIMATED START DATE	ESTIMATED COMPLETION DATE	
REASON EXEMPTION IS CLAIMED		
JOB DESCRIPTION		
WILL ANY POLLUTION CONTROL EXEMPTION BE APPLICABLE?		ESTIMATED POLLUTION CONTROL COST
<input type="checkbox"/> Yes <input type="checkbox"/> No		\$
TOTAL BID AMOUNT	LABOR COST	MATERIAL COST
\$	\$	\$

**Instructions For Preparation of Form ST: EXC-01
Sales and Use Tax Certificate of Exemption for Government Entity Project**

In order to expedite the processing of your application, please include the following documentation when submitting your application:

Exempt Entity:

1. Signed Application
2. Copy of Executed/Signed Contract and/or Letter of Intent

General Contractor:

1. Signed Application
2. Copy of Executed/Signed Contract and/or Letter of Intent
3. List of Sub-Contractors
4. Alabama Board of General Contractor's License
5. State/County Business License (usually obtained through county probate office)
6. Any other municipal business licenses associated with the project

Sub-Contractor:

1. Application
2. Alabama Board of General Contractor's License
3. State/County Business License (usually obtained through county probate office)
4. Any other municipal business licenses associated with the project
5. List of Sub-Contractors (if any)

General contractors and sub-contractors:

Any updates regarding the sub-contractors working on a project, additions and/or deletions, must be submitted to the Department within 30 days of occurrence.

If an extension is needed for a project, please contact the Department of Revenue at the address, numbers, or emails listed below.

THERE IS A FILING REQUIREMENT IF YOUR APPLICATION IS APPROVED. The return will be filed through the Consumer's Use Tax account. If you do not currently have a Consumer's Use Tax account, one will be opened for you. The return should be filed every filing period that the Contractor's Exemption Certificate is active/open and should include the Project No., Exemption No., and the total amount of purchases for the filing period. If there is no product purchased with the exemption certificate, then a zero return must be filed for the period. There is a requirement of one entry for each exemption certificate that is active for each filing period. The information associated with the Contractor's Exemption Certificates is input at the bottom of the return.

The application and applicable documentation may be mailed, faxed, or emailed to the following:

Fax: (334) 353-7867

Emails: amber.hartley@revenue.alabama.gov brenda.wallace@revenue.alabama.gov

Mailing Address: ATTN: Contractor's Exemption
Alabama Dept. of Revenue
Sales & Use Tax Division - Room 4303
PO Box 327710
Montgomery, AL 36132-7710

Exhibit A

THE CITY OF TUSCALOOSA MINORITY ENTERPRISE/DISADVANTAGED BUSINESS ENTERPRISE (MBE/DBE/WBE) POLICY FOR PUBLIC WORKS PROJECTS OVER \$50,000

General Mission Statement

THE CITY OF TUSCALOOSA (hereinafter, "City") has voluntarily adopted a Minority/Disadvantaged Business Enterprise (MBE/DBE/WBE) Program designed to encourage the participation and development of minority and disadvantaged business enterprises and to promote equal business opportunities in the City to the fullest extent allowed by state and federal law.

It is the intent of the City to foster competition among contractors, suppliers, and vendors that will result in better quality and more economical services rendered to the City. Under this policy, the City of Tuscaloosa has established a goal of ten to twenty percent (10-20%) inclusion of minority and disadvantaged business enterprise (hereinafter sometimes "MBE/DBE/WBE") for all services required to deliver City projects. In no case shall the stated percentage be the determining factor in contract awards. Rather, contractors must demonstrate a good faith effort to attain the desired percentage goal.

Program Goals

It is the goal of this program:

- To ensure non-discrimination in the award and administration of City contracts.
- To help to remove barriers to the participation of DBE/MBE/WBE's in competing for City contracts.
- To ensure a level playing field exists on which DBE/MBE/WBE's can compete fairly for City contracts.

Definition

1. "Minority Business Enterprise" ("MBE") means a business which is an independent and continuing enterprise for profit, performing a commercially useful function and is at least fifty-one percent (51%) owned and controlled by an African American, or Black American.

2. "Women-owned Business Enterprise" ("WBE") means a business which is an independent and continuing enterprise for profit, performing a commercially useful function and is at least fifty-one percent (51%) owned, operated and controlled on a daily basis by one or more female American citizens.

3. "Disadvantaged Business Enterprise" (DBE) means a business which is an independent and continuing enterprise for profit, performing a commercially useful function and is owned by a majority of persons who are United States citizens or permanent resident aliens (as defined by the Immigration and Naturalization Service) of the United States, and who are Asian, Black, Hispanic or Native Americans, according to the following definitions:

"Asian" – means persons having origins in any of the original people of the Far East, Southeast Asia, the Indian subcontinent, or the Pacific Islands.

"African American" or "Black American" means persons having origins in any black racial group of Africa.

"Hispanic" means persons of Spanish or Portuguese culture with origins in Mexico, South of Central America, or the Caribbean Islands regardless of race.

"Native American" means persons having origins in any of the original people of North America, including American Indians, Eskimos and Aleuts.

Equal Business Opportunity

It is the policy of the City to promote full and equal business opportunities for all persons doing business with the City, regardless of race, sex or national origin. It is the ultimate goal of this policy to promote an equitable business climate district. The City will seek to increase minority and women participation for contracts that require formal bids. These efforts will be for contracts above \$50,000 as allowed by the Alabama Public Works law. These efforts are designed to help prevent discrimination against minorities and disadvantaged businesses and promote more completion among vendors, suppliers, and contractors of the City of Tuscaloosa.

The City has established a goal of ten to twenty percent (10-20%) of the total construction related expenditures to be provided by minority and disadvantaged business enterprises. While the policy provides for voluntary participation by the City and is dependent upon race-neutral and gender-neutral considerations, contractors are encouraged to comply with the City's policy. The City of Tuscaloosa shall periodically review the policy, including race/gender-neutral remedies, to determine its effectiveness.

Good Faith Effect

The City require contractors to demonstrate a good faith effort to attain the goal of 10-20% participation of MBE/DBE/WBE's in all levels of the Public Works contracting process. Contractors shall document their efforts to obtain minority and disadvantaged business participation in the bid documents. Contractors should note that failure to document a good faith effort to the satisfaction of the City may subject the contractor to bid rejection for non-responsiveness.

The following process shall constitute a good faith effort under the City's policy:

(1) Contractors deciding to bid on a City project shall submit the MBE/DBE/WBE Documentation Statement and Acknowledgement (Form 1). Submission of Form 1 confirms the commitment of the contractor to participate in the inclusion effort for the project. Form 1 must be submitted to the City of Tuscaloosa Office of Resilience and Innovation no later than seven (7) days prior to the bid, or at the pre-bid conference, whichever is earlier. The City reserves the right to modify the submittal deadline as-needed.

(2) Contractors shall submit MBE/DBE/WBE Bid Solicitation Notice (Form 2). Form 2 must be submitted to the City of Tuscaloosa Office of Resilience and Innovation no later than seven (7) days prior to the bid, or at the pre-bid conference, whichever is earlier. The City reserves the right to modify the submittal deadline as-needed.

(3) Contractors shall submit a brief plan for achieving the stated MBE/DBE/WBE Participation Goal for his/her trade (Form 3). Form 3 must be submitted in the contractor's sealed bid.

(4) Contractor shall submit a listing of all MBE/DBE/WBE contractors that submitted bids (**Form 4**). Form 4 must be submitted in the contractor's sealed bid. (Note: In the event a MBE/DBE/WBE contractor submits a bid after the general contractor has sealed the bid, contractors should write on the envelope the name(s) and scope of work of the MBE/DBE/WBE contractor who submitted the bid.)

(5) Contractors shall be required to work in cooperation with the City in the implementation of this program. Failure to do so, in the discretion of the City, may result in a rejection of bid due to non-responsiveness.

Following compliance with item (5) above, submission of Form 1, Form 2, Form 3, and Form 4 at the above-prescribed times shall satisfy the good faith effort requirement. Failure to do so may result in rejection of bid due to non-responsiveness.

Additional Administrative Requirements/Procedure

(1) Once a tentative contract award has been made, the successful contractor shall submit a list of all MBE/DBE/WBE firms the contractor proposes to utilize during the execution of the contract (**Form 5**). In addition, the contractor shall include on Form 5 all firms that the major subcontractors propose to utilize.

(2) If the successful contractor will be subcontracting less than the started percentage goal, the Contractor must complete a "MBE/DBE/WBE Unavailability Certification" (**Form 6**). Form 6 is due once a tentative contract award has been made.

(3) Contractors shall obtain the listing of certified MBE/DBE/WBE business by contacting the City of Tuscaloosa Office of Resilience and Innovation to assist in soliciting MBE/DBW/WBE participation for the project.

(4) Contractors shall not be required to use a MBE/DBE/WBE subcontractor who cannot display reasonable technical and financially qualifications to perform the work in question.

(5) In addition to the above requirements, contractors should note that the City reserves the right to periodically audit payroll records to ensure compliance with the program. The City employs the services of a Compliance Director.

(6) Upon completion of the project and prior to release of retainage or final payment, the contractor shall submit a Project Closeout Report (**Form 7**) that includes final accounting of all MBE/DBE/WBE firms utilized on the project.

(7) On a monthly basis, contractors shall submit updated MBE/DBE/WBE reports (Monthly Report Form) to identify any changes in MBE/DBE/WBE firm utilization (**Form 8**). Contractors shall submit Form 8 directly to the City of Tuscaloosa Office of Resilience and Innovation.

Race/Gender – Neutral Remedies

The City recognizes that race/gender – neutral remedies may be effective tools used to increase MBE/DBE/WBE participation. Therefore, the City will continue to explore these remedies. The remedies will include, but will not be limited to, the following:

1. Technical assistance techniques to identify and increase the participation of MBE/DBE/WBE's in the City's contracting, subcontracting and purchasing opportunities.
2. Continuation of the certification process.

The City will periodically review the success of these measures in order to determine the extent to which the measures provide equitable access to the City's contracting, subcontracting and purchasing opportunities.

The City has determined that this policy complies with all applicable local, state and national laws concerning the contracting and purchasing process. The City shall not sacrifice product quality for lower pricing, but shall make all awards in accordance with applicable law. It shall be the primary responsibility of the City to insure that this policy is followed, and that all actions regarding the contracting and purchasing process comply with all applicable statutes as well as the defined goals relative to MBE/DBE/WBE participation on all construction projects.

Contact Information:

City of Tuscaloosa Office of Resilience and Innovation
Robin Edgeworth, Chief Resilience Officer
(205) 248-5725
redgeworth@tuscaloosa.com

Form 1 (one page)
Documentation Statement and Acknowledgement

(Due no later than seven (7) days prior to the bid, or at the pre-bid conference, whichever is earlier)

PROJECT NAME: Disaster Recovery - Streets Reconstruction Project

The City of Tuscaloosa has adopted a program to encourage the participation of Minority Business Enterprises/Disadvantaged Business Enterprises (MBE/DBE/WBE) on its public works construction projects. The signed statement serves as a commitment by the undersigned company to comply with this program as outlined by the City, relative to the involvement of MBE/DBE/WBE firm in City guidelines.

The undersigned Company will adhere to City program guidelines set forth to utilize MBE/DBE/WBE businesses in all construction projects, and all program forms (1-8) have been reviewed and understood.

[Signature]
Company Representative (Signature)

3/31/16
Date

Joim Pyh
Company Representative (Printed)

Vice President
Title

REV Construction
Company Name

205-349-1860
Telephone Number

Tuscaloosa AL 35401
City, State, Zip

205-349-1862
Fax Number

Form 2 (6 pages)
Bid Solicitation Notice

(Due no later than seven (7) days prior to the bid, or at the pre-bid
Conference, whichever is earlier)

BID DATA

1. GENERAL CONTRACTOR: REN Construction Inc.
ADDRESS: 2201 11th St
Tuscaloosa AL 35401
CONTACT (S): Joiner Pugh
PHONE: 205-349-1860
FAX: 205-349-1862
E-MAIL: tjpugh@renconstructioninc.com
2. OWNER: City of Tuscaloosa
3. NAME OF PROJECT: Disaster Recovery - Streets Reconstruction Project
4. SCHEDULE PRE-BID MEETING
DATE/TIME: 3/31/16 10:00 AM
LOCATION: Tuscaloosa City Hall
5. DATE/TIME FOR RECEIPT OF BIDS: 4/7/16 2:00 PM
6. SCHEDULE BID OPENING
DATE/TIME: 4/7/16 2:00 PM
LOCATION: Tuscaloosa City Hall
7. ESTIMATED JOB START DATE: _____
8. ESTIMATED COMPLETION DATE: _____

PROJECT: Disaster Recovery - streets Reconstruction Project
 LOCATION: Tuscaloosa City Hall
 BID DATE: 4/7/16

GENERAL CONTRACTOR CONTACT:
 NAME REV Construction
 ADDRESS: 2201 11th St
Tuscaloosa AL 35401
 TELEPHONE: (256) 349-1860
 FAX: (256) 349-1862
 EMAIL: () fjugh@reconstruction inc. com

DEADLINE FOR PROPOSALS

4/6/16 5:00 PM

DATE/TIME

* Estimated Contract Opportunity Value:
 (1) 0-25,000 (2) 25,000-50,000 (3) 50,000-100,000 (4)
 100,000 - 500,000 (5) over 500,000

DIVISION 02 - EXISTING CONDITIONS
 (1) (2) (3) (4) (5)*

- 02 21 SURVEYS
- 02 32 GEOTECHNICAL INVESTIGATIONS
- 02 41 DEMOLITION
- 02 42 REMOVAL and SALVAGE of CONSTRUCTION MATERIALS
- 02 43 STRUCTURE MOVING
- 02 55 SITE CONTAINMENT
- 02 55 UNDERGROUND STORAGE TANK REMOVAL
- 02 51 TRANSPORTATION and DISPOSAL of HAZARDOUS MATERIALS
- 02 52 ASBESTOS REMEDIATION
- 02 53 LEAD REMEDIATION
- 02 55 MOLD REMEDIATION
- 02 51 CHEMICAL SAMPLING, TESTING and ANALYSIS

02 _____
 (Please fill-in other opportunity)

DIVISION 3 - CONCRETE (1) (2) (3) (4) (5)

- 03 01 MAINTENANCE OF CONCRETE
- 03 11 CONCRETE FORMING
- 03 15 CONCRETE ACCESSORIES
- 03 21 REINFORCING STEEL
- 03 22 WELDED WIRE FABRIC REINFORCING

- 03 30 CAST-IN-PLACE CONCRETE
- 03 31 STRUCTURAL CONCRETE
- 03 35 CONCRETE FINISHING
- 03 37 SPECIALTY PLACED CONCRETE
- 03 39 CONCRETE CURING
- 03 41 PRECAST STRUCTURAL CONCRETE
- 03 45 PRECAST ARCHITECTURAL CONCRETE
- 03 47 SITE-CAST CONCRETE
- 03 52 NON-SHRINK GROUTING
- 03 53 EPOXY GROUTING
- 03 51 CONCRETE CUTTING
- 03 52 CONCRETE BORING

03 _____
 (Please fill-in for other opportunity)

DIVISION 4 - MASONRY (1) (2) (3) (4) (5)

- 04 21 CLAY UNIT MASONRY
- 04 22 CONCRETE UNIT MASONRY
- 04 23 UNIT MASONRY PANELS
- 04 30 MULTIPLE-WYTHE MASONRY
- 04 43 STONE MASONRY
- 04 57 MASONRY FIREPLACES
- 04 71 MANUFACTURED BRICK MASONRY
- 04 73 MANUFACTURED STONE MASONRY

04 _____
 (Please fill-in for other opportunity)

DIVISION 5 - METALS (1) (2) (3) (4) (5)

- 05 12 STRUCTURAL STEEL FRAMING
- 05 14 STRUCTURAL ALUMINUM FRAMING
- 05 18 WIRE ROPE ASSEMBLIES
- 05 21 STEEL JOIST FRAMING
- 05 31 STEEL DECKING
- 05 33 RACEWAY DECKING ASSEMBLIES
- 05 41 STRUCTURAL METAL STUD FRAMING
- 05 42 COLD-FORMED METAL JOIST FRAMING
- 05 44 COLD-FORMED METAL TRUSSES
- 05 51 METAL STAIRS
- 05 52 METAL RAILINGS
- 05 53 METAL GRATINGS
- 05 55 METAL STAIR TREADS & NOSING
- 05 58 METAL CASTINGS
- 05 58 FORMED METAL FABRICATIONS
- 05 71 DECORATIVE METAL STAIRS
- 05 73 DECORATIVE METAL RAILINGS
- 05 75 DECORATIVE FORMED METAL

05 _____
 (Please fill-in for other opportunity)

DIVISION 6 - WOODS, PLASTICS & COMPOSITES
 (1) (2) (3) (4) (5)

- 06 11 WOOD FRAMING

- 06 12 STRUCTURAL PANELS
- 06 15 WOOD DECKING
- 06 16 SHEATING
- 06 17 SHOP FABRICATED STRUCTURAL WOOD
- 06 22 MILLWORK
- 06 25 PREFINISHED PANEL
- 06 26 PANELING
- 06 43 WOOD STAIRS & RAILINGS
- 06 44 ORNAMENTAL WOODWORK
- 06 48 WOOD FRAMES
- 06 _____

(Please fill-in for other opportunity)

DIVISION 7 - THERMAL & MOISTURE PROTECTION
{1} {2} {3} {4} {5}

- 07 11 DAMPPROOFING
- 07 12 BUILT-UP BITUMINOUS WATERPROOFING
- 07 13 SHEET WATERPROOFING
- 07 16 CEMENTIOUS & REACTIVE WATERPROOFING
- 07 19 WATER REPELLANTS
- 07 21 THERMAL INSULATION
- 07 22 ROOF & DECK INSULATION
- 07 24 EXTERIOR INSULATION & FINISH SYSTEMS
- 07 25 WEATHER BARRIERS
- 07 26 VAPOR RETARDERS
- 07 31 SHINGLES & SHAKES
- 07 32 ROOF TILES
- 07 33 NATURAL ROOF COVERINGS
- 07 41 ROOF PANELS
- 07 42 WALL PANELS
- 07 46 SIDING
- 07 51 BUILT-UP BITUMINOUS ROOFING
- 07 52 MODIFIED BITUMINOUS MEMBRANE ROOFING
- 07 53 ELASTOMETRIC MEMBRANE ROOFING
- 07 54 THERMOPLASTIC MEMBRANE ROOFING
- 07 56 FLUID APPLIED ROOFING
- 07 58 ROLL ROOFING
- 07 61 SHEET METAL ROOFING
- 07 65 FLEXIBLE FLASHING
- 07 71 ROOF SPECIALTIES
- 07 72 ROOF ACCESSORIES
- 07 81 APPLIED FIREPROOFING
- 07 84 FIRESTOPPING
- 07 91 PREFORMED JOINT SEALS
- 07 92 JOINT SEALANTS
- 07 95 EXPANSION CONTROL
- 07 _____

(Please fill-in for other opportunity)

DIVISION 8 - OPENINGS {1} {2} {3} {4} {5}

- 08 11 METAL DOORS & FRAMES
- 08 12 METAL FRAMES
- 08 13 METAL DOORS
- 08 14 WOOD DOORS
- 08 16 COMPOSITE DOORS
- 08 17 INTEGRATED DOOR OPENING ASSEMBLIES
- 08 31 ACCESS DOORS & PANELS
- 08 32 SLIDING GLASS DOORS
- 08 33 COILING DOORS & GRILLES
- 08 34 SPECIAL FUNCTION DOORS
- 08 36 PANEL DOORS
- 08 38 TRAFFIC DOORS
- 08 41 ENTRANCES & STOREFRONTS
- 08 42 ENTRANCES
- 08 43 STOREFRONTS
- 08 44 CURTAIN WALL & GLAZED ASSEMBLIES
- 08 51 METAL WINDOWS
- 08 52 WOOD WINDOWS
- 08 53 PLASTIC WINDOWS
- 08 54 COMPOSITE WINDOWS
- 08 56 SPECIAL FUNCTION WINDOWS
- 08 62 UNIT SKYLIGHTS
- 08 63 METAL-FRAMED SKYLIGHTS
- 08 71 DOOR HARDWARE
- 08 74 ACCESS CONTROL HARDWARE
- 08 75 WINDOW HARDWARE
- 08 79 HARDWARE ACCESSORIES
- 08 81 GLASS GLAZING
- 08 83 MIRRORS
- 08 84 PLASTIC GLAZING
- 08 88 SPECIAL FUNCTION GLAZING
- 08 91 LOUVERS
- 08 95 VENTS
- 08 _____

(Please fill-in for other opportunity)

DIVISION 9 - FINISHES {1} {2} {3} {4} {5}

- 09 21 PLASTER & GYPSUM ASSEMBLIES
- 09 22 SUPPORTS FOR PLASTER & GYPSUM
- 09 23 GYPSUM PLASTERING
- 09 24 CEMENT PLASTERING
- 09 26 VENEER PLASTERING
- 09 28 BACKING S & UNDERLAYMENTS
- 09 29 GYPSUM
- 09 30 TILING
- 09 51 ACOUSTICAL CEILINGS
- 09 54 SPECIALTY CEILINGS
- 09 62 SPECIALTY FLOORING
- 09 63 MASONRY FLOORING
- 09 64 WOOD FLOORING

- 09 65 RESILIENT FLOORING
 - 09 66 TERRAZZO FLOORING
 - 09 68 CARPETING
 - 09 72 WALL COVERINGS
 - 09 77 SPECIAL WALL SURFACING
 - 09 91 PAINTING
 - 09 93 STAINING & TRANSPARENT FINISHING
 - 09 96 HIGH PERFORMANCE COATINGS
 - 09 97 SPECIAL COATINGS
 - 09 _____
- (Please fill-in for other opportunity)

- DIVISION 10 - SPECIALTIES {1} {2} {3} {4} {5}**
- 10 11 VISUAL DISPLAY UNITS
 - 10 14 SIGNAGE
 - 10 22 PARTITIONS
 - 10 26 WALL & DOOR PROTECTION
 - 10 28 TOILET, BATH & LAUNDRY ACCESSORIES
 - 10 44 FIRE PROTECTION SPECIALTIES
 - 10 51 LOCKERS
 - 10 71 EXTERIOR PROTECTION
 - 10 74 MANUFACTURED EXTERIOR SPECIALTIES
 - 10 75 FLAGPOLES
 - 10 81 PEST CONTROL DEVICES
 - 10 88 SCALES
 - 10 _____
- (Please fill-in for other opportunity)

- DIVISION 11 - EQUIPMENT {1} {2} {3} {4} {5}**
- 11 11 VEHICLE SERVICE EQUIPMENT
 - 11 12 PARKING CONTROL EQUIPMENT
 - 11 13 LOADING DOCK EQUIPMENT
 - 11 14 PEDESTRIAN CONTROL EQUIPMENT
 - 11 24 MAINTENANCE EQUIPMENT
 - 11 31 RESIDENTIAL APPLIANCES
 - 11 33 RETRACTABLE STAIRS
 - 11 41 FOODSERVICE STORAGE EQUIPMENT
 - 11 42 FOOD PREPARATION EQUIPMENT
 - 11 43 FOOD DELIVERY CARTS AND CONVEYORS
 - 11 44 FOOD COOKING EQUIPMENT
 - 11 46 FOOD DISPENSING EQUIPMENT
 - 11 47 ICE MACHINES
 - 11 48 CLEANING & DISPOSAL EQUIPMENT
 - 11 52 AUDIO-VISUAL EQUIPMENT
 - 11 53 LABORATORY EQUIPMENT
 - 11 66 ATHLETIC EQUIPMENT
 - 11 67 RECREATIONAL EQUIPMENT
 - 11 82 SOLID WASTE HANDLING
 - 11 _____
- (Please fill-in for other opportunity)

- DIVISION 12 - FURNISHINGS {1} {2} {3} {4} {5}**
- 12 21 WINDOW BLINDS
 - 12 22 CURTAINS & DRAPES
 - 12 23 INTERIOR SHUTTERS
 - 12 24 WINDOW SHADES
 - 12 32 MANUFACTURED CASEWORK
 - 12 35 SPECIALTY CASEWORK
 - 12 36 COUNTERTOPS
 - 12 46 FURNISHING ACCESSORIES
 - 12 48 RUGS & MATS
 - 12 51 OFFICE FURNITURE
 - 12 52 SEATING
 - 12 54 HOSPITALITY FURNITURE
 - 12 56 INSTITUTIONAL FURNITURE
 - 12 61 FIXED AUDIENCE SEATING
 - 12 63 STADIUM & ARENA SEATING
 - 12 67 PEWS & BENCHES
 - 12 92 INTERIOR PLANTERS & ARTIFICIAL PLANTS
 - 12 93 SITE FURNISHINGS
 - 12 _____
- (Please fill-in for other opportunity)

- DIVISION 13 - SPECIAL CONSTRUCTION {1} {2} {3} {4} {5}**
- 13 11 SWIMMING POOLS
 - 13 17 TUBS & POOLS
 - 13 18 ICE RINKS
 - 13 21 CONTROLLED ENVIRONMENT ROOMS
 - 13 24 SPECIAL ACTIVITY ROOMS
 - 13 28 ATHLETIC & RECREATIONAL SPECIAL CONSTRUCTION
 - 13 31 FABRIC STRUCTURES
 - 13 34 FABRICATED ENGINEERED STRUCTURES
 - 13 36 TOWERS
 - 13 42 BUILDING MODULES
 - 13 48 SOUND, VIBRATION, & SEISMIC CONTROL
 - 13 49 RADIATION PROTECTION
 - 13 _____
- (Please fill-in for other opportunity)

- DIVISION 14 - CONVEYING SYSTEMS {1} {2} {3} {4} {5}**
- 14 11 MANUAL DUMBWAITERS
 - 14 12 ELECTRIC DUMBWAITERS
 - 14 21 ELECTRIC TRACTION ELEVATORS
 - 14 24 HYDRAULIC ELEVATORS
 - 14 27 CUSTOM ELEVATOR CABS & DOORS
 - 14 28 ELEVATOR EQUIPMENT & CONTROLS
 - 14 31 ESCALATORS

- 14 32 MOVING WALKS
- 14 42 WHEELCHAIR LIFTS
- 14 51 CORRESPONDENCE & PARCEL LIFTS
- 14 91 FACILITY CHUTES
- 14 92 PNEUMATIC TUBE SYSTEMS
- 14 _____

(Please fill-in for other opportunity)

DIVISION 21 - FIRE SUPPRESSION {1} {2} {3} {4} {5}

- 21 11 FIRE-SUPPRESSION WATER SERVICE PIPING & METHODS
- 21 12 FIRE SUPPRESSION STANDPIPES
- 21 13 FIRE SUPPRESSION SPRINKLER SYSTEMS
- 21 21 CARBON-DIOXIDE FIRE EXTINGUISHING SYSTEMS
- 21 22 CLEAN AGENT FIRE EXTINGUISHING SYSTEMS
- 21 31 CENTIFUGAL FIRE PUMPS
- 21 _____

(Please fill-in for other opportunity)

DIVISION 22-PLUMBING {1} {2} {3} {4} {5}

- 22 07 PLUMBING INSULATION
- 22 11 FACILITY WATER DISTRIBUTION
- 22 13 FACILITY SANITARY SEWERAGE
- 22 14 FACILITY STORM DRAINAGE
- 22 41 COMMERCIAL PLUMBING FIXTURE
- 22 42 COMMERCIAL PLUMBING FIXTURES
- 22 45 EMERGENCY PLUMBING FIXTURES
- 22 47 DRINKING FOUNTAINS & WATER COOLERS
- 22 51 SWIMMING POOL PLUMBING SYSTEMS
- 22 66 CHEMICAL-WASTE SYSTEMS FOR LAB & HEALTHCARE FACILITIES
- 22 _____

(Please fill-in for other opportunity)

DIVISION 23-HEATING VENTILATION AIR CONDITIONING {1} {2} {3} {4} {5}

- 23 07 HVAC INSULATION
- 23 09 INSTRUMENTATION & CONTROL FOR HVAC
- 23 13 FACILITY FUEL-STORAGE TANKS
- 23 21 HYDRONIC PIPING & PUMPS
- 23 22 STEAM & CONDENSATE PIPING & PUMPS
- 23 31 HVAC DUCTS & CASINGS
- 23 33 AIR DUCT ACCESSORIES
- 23 34 HVAC FANS
- 23 37 AIR OUTLETS & INLETS
- 23 38 VENTILATION HOODS

- 23 41 PARTICULATE AIR FILTRATION
- 23 52 HEATING BOILERS
- 23 54 FURNACES
- 23 56 SOLAR ENERGY HEATING EQUIP.
- 23 57 HEAT EXCHANGES FOR HVAC
- 23 62 PACKAGED COMPRESSOR & CONDENSOR UNITS
- 23 63 REFRIGERANT CONDENSORS
- 23 64 PACKAGED WATER CHILLERS
- 23 65 COOLING TOWERS
- 23 73 INDOOR CENTRAL-STATION AIR-HANDLING UNITS
- 23 74 PACKAGED OUTDOOR HVAC EQUIP
- 23 82 CONVECTION HEATING & COOLING UNITS
- 23 84 HUMIDITY CONTROL EQUIPMENT
- 23 _____

(Please fill-in for other opportunity)

DIVISION 26-ELECTRICAL {1} {2} {3} {4} {5}

- 26 09 INSTRUMENTATION & CONTROL FOR ELECTRICAL SYSTEMS
- 26 12 MEDIUM VOLTAGE TRANSFORMERS
- 26 22 LOW VOLTAGE TRANSFORMERS
- 26 24 SWITCHES & PANELS
- 26 25 ENCLOSED BUS ASSEMBLIES
- 26 27 LOW VOLTAGE DISTRIBUTION EQUIPMENT
- 26 28 LOW VOLTAGE CIRCUIT PROTECTIVE DEVICES
- 26 29 LOW VOLTAGE CONTROLLERS
- 26 32 PACKAGED GENERATOR ASSEMBLIES
- 26 35 POWER FILTERS & CONDITIONERS
- 26 42 CATHODIC PROTECTION
- 26 51 INTERIOR LIGHTING
- 26 52 EMERGENCY LIGHTING
- 26 53 EXIT SIGNS
- 26 54 CLASSIFIED LOCATION LIGHTING
- 26 55 SPECIAL PURPOSE LIGHTING
- 26 56 EXTERIOR LIGHTING
- 26 61 LIGHTING SYSTEMS & ACCESSORIES
- 26 71 ELECTRICAL MACHINES
- 26 _____

(Please fill-in for other opportunity)

COMMUNICATIONS- 27 {1} {2} {3} {4} {5}

- 27 13 COMMUNICATIONS BACKBONE CABLING
- 27 41 AUDIO-VIDEO SYSTEMS
- 27 51 DISTRIBUTED AUDIO VIDEO
- 27 52 HEALTHCARE COMMUNICATIONS & MONITORING SYSTEMS
- 27 53 DISTRIBUTED SYSTEMS

27 _____
(Please fill-in for other opportunity)

ELECTRONIC SAFETY & SECURITY- 28 {1} {2} {3} {4} {5}

- 28 13 COMMUNICATIONS BACKBONE CABLING
- 28 16 INTRUSION DETECTION
- 28 23 VIDEO SURVEILLANCE
- 28 31 FIRE DETECTION
- 28 33 FUEL-GAS DETECTION
- 28 39 MABS NOTIFICATION SYSTEMS
- 28 _____
(Please fill-in for other opportunity)

EARTHWORK-31 {1} {2} {3} {4} {5}

- 31 06 SCHEDULES FOR EARTHWORK
- 31 11 CLEARING & GRUBBING
- 31 13 SELECTIVE TREE & SHRUB REMOVAL & TRIMMING
- 31 14 EARTH STRIPPING & STOCKPILING
- 31 22 GRADING
- 31 23 EXCAVATION & FILL
- 31 25 ERSION & SEDIMENTATION
- 31 31 SOIL TREATMENT
- 31 32 SOIL STABILIZATION
- 31 33 ROCK STABILIZATION
- 31 36 GABIONS
- 31 37 RIPRAP
- 31 41 SHORING
- 31 43 CONCRETE RAISING
- 31 45 VIBROFLORATION & DENSIFICATION
- 31 46 NEEDLE BEAMS
- 31 48 UNDERPINNING
- 31 52 COFFERDAMS
- 31 56 SHURRY WALLS
- 31 62 DRIVEN PILES
- 31 63 BORED PILES
- 31 _____
(Please fill-in for other opportunity)

EXTERIOR IMPROVEMENTS- 32 {1} {2} {3} {4} {5}

- 32 11 BASE COURSES
- 32 12 FLEXIBLE PAVING
- 32 13 RIGID PAVING
- 32 16 CURBS, GUTTERS SIDEWALKS & DRIVEWAYS
- 32 17 PAVING SPECIALTIES
- 32 18 ATHLETIC & RECREATIONAL SURFACING
- 32 31 FENCES & GATES
- 32 32 RETAINING WALLS
- 32 34 FABRICATED BRIDGES
- 32 35 SCREENING DEVICES
- 32 84 PLANTING IRRIGATION
- 32 91 PLANTING PREPARATION
- 32 92 TURF & GRASSES

- 32 93 PLANTS
- 32 94 PLANTING ACCESSORIES
- 32 96 TRANSPLANTING
- 32 _____
(Please fill-in for other opportunity)

UTILITIES-33 {1} {2} {3} {4} {5}

- 33 11 WATER UTILITY DISTRIBUTION PIPING
- 33 12 WATER UTILITY DISTRIBUTION EQUIPMENT
- 33 16 WATER UTILITY STORAGE TANKS
- 33 21 WATER SUPPLY WELLS
- 33 31 SANITARY UTILITY SEWERAGE PIPING
- 33 36 UTILITY SEPTIC TANKS
- 33 41 STORM UTILITY DRAINAGE PIPING
- 33 42 CULVERTS
- 33 44 STORM UTILITY WATER DRAINS
- 33 46 SUBDRAINAGE
- 33 49 STORM DRAINAGE STRUCTURES
- 33 51 NATURAL GAS DISTRIBUTION
- 33 52 LIQUID FUEL DISTRIBUTION
- 33 71 ELECTRICAL UTILITY TRANSMISSION & DISTRIBUTION
- 33 81 COMMUNICATIONS & STRUCTURES
- 33 _____
(Please fill-in for other opportunity)

TRANSPORATION-34 {1} {2} {3} {4} {5}

- 34 11 RAIL TRACKS
- 34 41 ROADWAY SIGNALING AND CONTROL EQUIPMENT
- 34 71 ROADWAY CONSTRUCTION
- 34 72 RAILWAY CONSTRUCTION
- 34 _____
(Please fill-in for other opportunity)

MATERIAL PROCESSING & HANDLING

- EQUIPMENT-41 {1} {2} {3} {4} {5}**
- 41 21 CONVEYORS
- 41 22 CRANES & HOISTS
- 41 _____
(Please fill-in for other opportunity)

POLLUTION CONTROL EQUIP-44 {1} {2} {3} {4} {5}

- 44 11 PARTICULATE CONTROL EQUIPMENT
- 44 _____
(Please fill-in for other opportunity)

WATER & WASTEWATER EQUIPMENT-46

- {1} {2} {3} {4} {5}**
- 46 07 PACKAGED WATER & WASTEWATER TREATMENT EQUIPMENT
- 46 _____
(Please fill-in for other opportunity)

Form 4
Contractors Submitting Bids
(Must be submitted in the contractor's sealed bid)

General Contractor: REY CONST. INC.
Contact: GRADY POOT
Name of Project: DISASTER RECOVERY - STREET RECONSTRUCTION
Date Submitted: 4/14/16

All MBE/DBE/WBE Firms Submitting Bids
~~PAV~~ JAMES PAVING
KELLY ROAD BUILDERS

Scope of Work
CONCRETE WORK
MILLING + PATCHING

FORM 5
CONTRACTORS SUBMITTING BIDS
(Must be submitted following tentative bid award)

General Contractor: _____
Contact: _____
Name of Project: _____
Total Contract Amount: \$ _____
Total Amount of All Subcontractors: \$ _____
Date Submitted: _____

All MBE/DBE/WBE firms to be utilized	Scope of Work	Contract Amount
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

(Use additional pages if necessary)

Form 6
Unavailability Certification
 (Must be submitted following tentative bid award)

I, _____ (Name/Title), of _____ (Company) certify that on _____ (Date) I contacted the following Minority/Disadvantaged Business Enterprise to obtain proposals/bids for the following work items:

<u>MDE/DBE/WBE Firm</u>	<u>Work Items Sought</u>	<u>Form of Proposal Sought</u>
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

To the best of my knowledge and belief, said Minority/Disadvantaged Business Enterprises were unavailable for work on this project, or unable to prepare a proposal/bid for the following reason(s): _____

(This form to be completed by each MBE/DBE/WBE listed, which was contacted, but did not submit a bid/proposal)

_____ (Name of MBE/DBE/WBE) was offered an opportunity to submit a proposal on the above identified work on _____ (Date) by _____ (Company Name).

The above statement is a true and accurate account of why I did not submit a proposal/bid on this project.

_____ (Signature of MBE/DBE/WBE)

_____ (Date)

_____ (Title)

(Use additional pages if necessary)

Form 7
Project Closeout Report
 (To be submitted upon completion of project)

General Contractor: _____
 Contact: _____
 Name of Project: _____
 Total Contract Amount: \$ _____
 Final Contract Amount: \$ _____
 Date Submitted: _____

<u>All MBE/DBE/WBE firms verified</u>	<u>Original subcontract amount</u>	<u>Final subcontract amount</u>
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

Form 8
Monthly Report Form
 (To be submitted monthly directly to the City's consultant)

General Contractor: _____
 Contact: _____
 Name of Project: _____
 Total Contract Amount: \$ _____
 Date Submitted: _____

Billings

Each MBE/DBE/WBE Contractor utilized	Original subcontract amount	Previous amount	This period amount	Total Amount

(Use additional pages if necessary)

III. SPECIAL PROVISIONS

1. There is no separate pay item for "Demolition, Clearing & Grubbing". Individual demolition and/or removal items are listed within the quantities. In the event an additional item is demolished/removed, there will be no separate measurement or payment applied. This work will be considered a subsidiary of new construction.
2. There is no separate pay item for "Reset Mailbox, Single". This item will be considered a subsidiary item to other items or work.

Each removed mailbox will be investigated for determination of salvagability. If the Engineer determines the existing mailbox post cannot be salvaged and reset, the mailbox shall be installed using a standard 4"x4" timber post at no additional cost.

3. Where the proposed storm pipe ties to an existing storm structure to be retained, the existing storm structure shall be thoroughly cleaned, walls wiped with grout to make water tight, inverts formed if necessary, existing piping/drains regouted, etc. Payment shall be a subsidiary obligation of new storm sewer pay items.
4. There shall be no separate measurement or payment for sanitary sewer trench excavation. This item shall be a subsidiary obligation of related pay items for PVC Pipe, SDR 26, Sanitary Sewer (Varying Depths) and 48" Dia. Stan. Precast Manhole.
5. There shall be no separate measurement or payment for grouting abandoned sanitary sewer lines. Payment for this work shall be a subsidiary obligation of "Abandon Existing Sanitary Sewer".
6. ALDOT No. 57 Stone consists of the installation of ALDOT No. 57 Stone as backfill material related to roadway trench excavation. This pay item does not include bedding material. Bedding material is considered a subsidiary item of Sanitary Sewer Pipe.

Measurement for "ALDOT No. 57 Stone shall be per ton. Payment for "ALDOT No. 57 Stone shall be made for the tonnage installed and will constitute full compensation for all labor, materials, equipment and incidentals necessary to perform the work as shown in the construction plans. All measurement and payment limits are shown on plan details.

7. Payment for each item listed in the bid sheet shall be made at the unit price bid for each item installed and will constitute full compensation for all labor, materials, equipment and incidentals necessary to perform the work as shown in the construction plans.
8. It is the intent to construct the within described work as shown on the contract documents and specifications prepared by ***Burk-Kleinpeter, Inc.*** for the City Engineer, City of Tuscaloosa, Alabama, in accordance with the State of Alabama Highway Department Standard Specifications for Highway Construction, 2012 edition. Should there be a direct conflict between the City of Tuscaloosa, Alabama Public Works Contract Documents and the State of Alabama Highway Department Standard Specifications for Highway Construction, 2012 edition, precedence shall be given to the City of Tuscaloosa, Alabama Public Works Contract Documents. Items of work pertaining to sanitary sewer system improvements shall be constructed in accordance with the City of Tuscaloosa Sanitary Sewer Standard Specifications attached herein. Items of work pertaining to water system improvements shall be constructed in accordance with the City of Tuscaloosa Standards as shown in the construction plans.

9. In said specifications, where the words "State of Alabama", "Governor", "State", "State Highway Department", "Director", etc. appear, substitute "City of Tuscaloosa".
10. Maintenance roads, haul roads, laydown or storage yards, and detours constructed for the Contractor's use and convenience shall be constructed at the Contractor's expense and shall be absorbed in other bid items. All construction entrances to the site of work shall have aggregate surfacing placed over filter fabric for a minimum of twenty (20) linear feet from the adjacent connecting roadway, by an appropriate width, in an effort to minimize the transportation of sediment onto existing roadways. All areas shall be restored to their preconstruction condition after project completion. Any damage to the asphalt wearing surface beyond the limits of construction, as determined by the Engineer or Owner, shall be repaired at no cost to the Owner. Any traffic control required to complete such repairs shall be in accordance with Manual on Uniform Traffic Control Devices, Latest Edition, Federal Highway Administration and at no cost to the Owner.
11. The City of Tuscaloosa reserves the right to add to or reduce quantities or delete any item or items in this contract without any adjustment in unit price. Additional items of work necessary for the completion of this contract may be added by Change Order.
12. Payment for any work incidental to the completion of this contract, for which no item was set up, shall be absorbed in other bid items.
13. The Contractor shall provide maintenance for a period of one year from final acceptance of the work. This maintenance work shall include furnishing all materials, labor, equipment and incidentals necessary to maintain the project in an acceptable condition as determined by the City Engineer. This maintenance for a one-year period shall be provided with no additional compensation.
14. Contractor shall remove and dispose of all waste and unsuitable material, from the project site. The Contractor will be held responsible for disposal of debris and construction materials in an appropriate manner and at an approved, permitted location. The Contractor will be responsible for compliance with applicable laws or ordinances regarding material type and disposal site. Disposal of construction materials and debris is specified in Subarticles 206.04(c) and 201.03(d) of the State of Alabama Highway Department Standard Specifications for Highway Construction, 2012 edition. There will be no additional compensation for disposing of such material off the project site.
15. All salvageable material from the project shall be stored on the project at locations designated by the City Engineer. Any material not wanted by the City of Tuscaloosa shall be the property of the Contractor and shall be removed from the project. There will be no direct payment for removing and storing the salvageable materials, nor removing unwanted materials from the project.
16. Existing excavated material suitable for use as backfill, embankments, etc. shall be used on the project at no direct payment. Additional material required and compaction of the additional fill material shall be paid for under Item 210-D and Section 306.03 of the State of Alabama Highway Department Standard Specifications for Highway Construction, 2012 edition.
17. Existing topsoil material suitable for use on the project shall be stockpiled and utilized at no direct payment. Additional topsoil required shall be paid for under Item 650-A, as

designated in the State of Alabama Highway Department Standard Specifications for Highway Construction, 2012 edition.

18. The project site shall be kept clean at all times. Loose dirt, materials, excavation, etc. shall be kept cleared from streets, walks, ditches, etc. The Owner reserves the right to demand that the Contractor's forces be diverted to clean up whenever conditions warrant such diversion. Diversion of Contractor's forces will not entitle the Contractor to any extension of time or additional compensation.
19. Mix design for Bituminous Concrete layers, as listed within contract documents, shall be based on the State of Alabama Highway Department Standard Specifications for Highway Construction, 2012 edition.
20. The Contractor, at no cost to the Owner, shall replace any existing survey monument or property corner that is damaged during construction.
21. The Contractor, at no direct payment, shall support any utilities encountered during construction which require support.
22. The Owner reserves the right to reject any Bidder who has previously failed to perform properly, or complete on time, contracts of similar nature.
23. Project Documentation:
 - A. General. Prior to the start of construction, the Project right-of-way shall be documented by use of photographs and/or videotapes. Photos, in color, shall be taken at 100 feet on center and shall be taken along the centerline of the project looking up station. At least one station marker shall be visible for identification purposes. The Contractor shall set station markers. During the course of documentation, any features or items of interest or importance, which may be encountered, shall be videotaped and/or photographed. At least two (2) copies of video and/or photos shall be made. City Engineer shall retain one set. Prints and/or tapes shall be delivered to the City Engineer within one week after they are made.
 - B. Video Recordings. The purpose of the video recordings shall be a supply of continuous visual and audio record of problem areas, items, and features found within any particular area. This video record may be supplemented with photographs to exactly identify and locate specific problem features and items. The video recorder shall be capable of recording and reproducing a picture having not less than 500 lines of resolution.
 - C. The operating technician shall record the audio portion of the video report as it is produced and shall include the location or identification of the viewed section.
 - D. No separate payment shall be made for the photographic and/or video work.
24. It shall be the Contractor's responsibility to determine if the required construction can be performed within the area provided and comply with requirements of the Occupational Safety and Health Regulations (OSHA) for construction projects of this type. Any safety measures or methods of construction that are necessary in the construction of this project to comply with these regulations are the Contractor's responsibility and shall be provided with all cost to be included in the various pay items of the contract (no direct payment).
25. Any fines, penalties, or judgements assessed to City of Tuscaloosa, its agents or representatives due to inadequately installed or maintained erosion control shall be the responsibility of the Contractor. The Contractor shall indemnify and hold harmless the

Engineer, City of Tuscaloosa, its agents or representatives from all claims resulting, all or in part, from inadequately installed or maintained erosion control.

The Contractor shall provide, install and maintain all temporary erosion control measures shown on the drawings. Silt fences, wattle and other approved erosion control devices shall be installed by the Contractor and shall be maintained throughout the course of this project. Adjustments to the methods and types of erosion control will be necessary during the course of the construction and it will be the responsibility of the Contractor to provide, install and maintain these as well. The Engineer shall approve methods of erosion control. The design drawings depict the minimum erosion control devices required for this project. It will be the responsibility of the Contractor to satisfy himself that all Federal, State and Local Codes and Ordinances are abided by at all times during construction. Additionally, the Contractor shall implement any and all other Best Management Practices applicable per Federal, State, County and Municipal laws concerning water pollution.

26. Any damage to the existing bituminous asphalt surface and base structure on local streets in the project limits shall be repaired at no cost to the owner.
27. It is the contractor's responsibility to ascertain the location of all existing utilities, whether public or private, and make the necessary adjustments as required to construct the project. If any private utility line, including but not limited to irrigation lines, are encountered within the right-of-way, it is the contractor's responsibility to make the necessary adjustments of said facilities and coordinate with the property owner or private company. Such adjustments are considered incidental to the project (no said pay item).
28. It is the sole responsibility of the contractor to protect his/her equipment during down time. The owner or the engineer shall not entertain any claims by the contractor due to any damage to his or her equipment or materials.
29. The Contractor shall notify property owners prior to construction. The Contractor shall provide documentation to the Engineer that this has been accomplished. Notifying property owners is considered incidental to the project.
30. There shall be no adjustment to fuel or asphalt index for this project.
31. All water and sanitary sewer work shall follow the City of Tuscaloosa guidelines and design specifications. In the event there is a conflict between the ALDOT Standard Specifications and City of Tuscaloosa Specifications, City of Tuscaloosa Specifications shall govern.

IV. AMENDED SPECIFICATIONS

Alabama Department of Transportation Standard Specifications for Highway Construction, 2012 Edition, shall be amended as follows or as amended by Addendum:

1. PARAGRAPH 105.06(b) COOPERATION BY THE CONTRACTOR SHALL BE AMENDED TO INCLUDE THE FOLLOWING:

If requested by the ENGINEER, Contractor shall provide a résumé or other information necessary to insure that project superintendent is experienced in the type of work being performed. At the request of the ENGINEER in writing, Contractor shall immediately remove any superintendent or other employees whose lack of experience or conduct is detrimental to the project. Said removal shall not be cause for claim against the ENGINEER, City of Tuscaloosa or their agents.

2. SECTION 109, SUB-SECTION 109.07 PARTIAL PAYMENT SHALL BE REPLACED WITH THE FOLLOWING:

Once each month the ENGINEER will make an appropriate estimate on the regulation form of the work or portion of the work completed and the value thereof based on the contract Unit Prices, or proportional part thereof for Lump Sum items, less retainage or any assessed liquidated damages or other designated deductions.

The payment of any monthly estimate for any portion of the work as provided in the Specifications shall in no way affect the obligation of the Contractor to complete the work in accordance with the contract.

No Payment for stored materials will be included on the monthly estimates.

3. SECTION 210, EXCAVATION AND EMBANKMENT, SUB-SECTION 210.03 CONSTRUCTION REQUIREMENTS, SUB-SECTION (b) ROADWAY EXCAVATION, SUB-SECTION 4. UNDERCUTTING, SUB-SECTION a. Soil SHALL BE REPLACED WITH THE FOLLOWING:

Undercut areas shall be undercut to a depth necessary for the removal of soft or yielding soils as determined by the Engineer. The areas of undercutting shall be shaped to drain, backfilled with a suitable material and uniformly compacted to the density specified for embankment.

Areas where improved roadbed is not required shall also be undercut if the Engineer determines that this is necessary for the removal of soft or yielding areas. These areas shall also be shaped to drain, backfilled with suitable material and uniformly compacted to the density specified for embankment.

All depressions in undercut sections shall be cleaned out and provisions shall be made for drainage. The depressions shall be backfilled and compacted with selected materials approved by the Engineer.

4. SECTION 530, ROADWAY PIPE CULVERTS, SUB-SECTION 530.04 METHOD OF MEASUREMENT SHALL BE REPLACED WITH THE FOLLOWING:

The accepted length of pipe culverts laid as ordered will be measured along the bottom flowline, or invert, of the pipe complete in place. Measurements will be made between inside walls of designated structures (junction boxes, inlets, etc.) and along the centerline of the flowline of special fittings (elbows, wyes, etc.). The above applies to round or arch, beveled or unbeveled, pipe. However, in no case will measurement be made for lengths greater than the sum of the nominal laying lengths of the pipe sections used or for lengths greater than the length of culvert ordered by the Engineer. No separate measurement for payment will be made for the excavation and/or backfill volume needed to reroute water for temporary drainage which might be necessary for the proper installation of the pipe or to perform the imperfect trench method of installation.

There shall be no separate measurement for Structure Excavation, Foundation Backfill and backfill utilizing existing local on-site materials.

5. SECTION 530, ROADWAY PIPE CULVERTS, SUB-SECTION 530.05(a) BASIS OF PAYMENT SHALL BE REPLACED WITH THE FOLLOWING:

The accepted length of pipe culverts, measured as above provided, will be paid for at the respective contract unit prices for the various sizes, and types of pipe provided in the proposal, complete in place, which shall be payment as herein provided and also for all work, equipment, materials, and incidentals necessary to complete the work. There shall be no separate payment for Structure Excavation, Foundation Backfill and backfill utilizing existing local on-site materials. Payment for these items shall be a subsidiary obligation of the roadway pipe culvert being installed.

6. SECTION 618, CONCRETE SIDEWALKS AND DRIVEWAYS, SUB-SECTION 618.05(a) BASIS OF PAYMENT SHALL BE AMENDED TO INCLUDE THE FOLLOWING:

Raised curbs, truncated domes and any other items required to meet ADA standards for handicap ramps, shall be a subsidiary obligation of Pay Item 29, Concrete Sidewalk, 4" Thick.

7. SECTION 619, PIPE CULVERT END TREATMENTS, SUB-SECTION 619.05(a) BASIS OF PAYMENT SHALL BE REPLACED WITH THE FOLLOWING:

The ordered and accepted pipe culvert end treatment of the designated class for each size and appropriate type of pipe to which the end treatment is attached, measured as noted above, will be paid for at the contract unit price bid for the end treatment. Such price shall be full compensation for the furnishing of all materials and the installation and construction thereof necessary for the complete construction of the end treatment, and for all labor, tools, equipment, and incidentals necessary to complete the work.

8. SECTION 621, INLETS, JUNCTION BOXES MANHOLES , AND MISCELLANEOUS DRAINAGE STRUCTURES, SUB-SECTION 621.04(a) INLETS AND JUNCTION BOXES, METHOD OF MEASUREMENT SHALL BE REPLACED WITH THE FOLLOWING:

Inlets and junction boxes will be measured as individual units including footings, bottom slab, walls, cover, lid, grating, etc., of the type, size, and shape shown on the plans.

9. SECTION 623, CURB, GUTTER, AND COMBINATION CURB AND GUTTER, SUB-SECTION 623.04(a) CURB, GUTTER, AND COMBINATION CURB AND GUTTER, METHOD OF MEASUREMENT SHALL BE REPLACED WITH THE FOLLOWING:

Accepted Concrete Gutter, Concrete Curb, and Combination Curb and Gutter will be measured in linear feet, complete in place, to the nearest 0.1 foot along the base of the curb face or along the flow line of the gutter. Measurement for Concrete Curb, and Combination Curb and Gutter shall not extend across driveways. Measurement for separate payment for Foundation Backfill will only be made when Item 214-B is provided in the proposal.

10. SECTION 654, PAY ITEM 654-A SOLID SODDING; SUB-SECTION 654.05 BASIS OF PAYMENT SHALL BE REPLACED WITH THE FOLLOWING:

Payment will be based on the respective unit bid price for solid sodding, complete-in-place, which shall be payment in full for furnishing the individual solid sodding, for hauling, preparation, placing, and maintenance (including watering) of the solid sodding and for all labor, equipment, tools and incidentals necessary to complete this item.

11. SECTION 665, TEMPORARY SOIL EROSION AND SEDIMENT CONTROL; SUB-SECTION 665.04 SILT FENCE AND SILT FENCE REMOVAL, METHOD OF MEASUREMENT SHALL BE REPLACED WITH THE FOLLOWING:

Silt fence will be measured along the top of the fence in linear feet to the nearest foot. There shall be no separate measurement for silt fence removal. Silt fence removal shall be a subsidiary obligation of Pay Item 85, Silt Fence.

12. SECTION 665, TEMPORARY SOIL EROSION AND SEDIMENT CONTROL; SUB-SECTION 665.05(a) UNIT PRICE COVERAGE, BASIS OF PAYMENT, PARAGRAPH 1 SHALL BE REPLACED WITH THE FOLLOWING:

The payment for all temporary erosion control items shall include the maintenance of the items until their removal.

13. SECTION 665, TEMPORARY SOIL EROSION AND SEDIMENT CONTROL; SUB-SECTION 665.05(a) UNIT PRICE COVERAGE, BASIS OF PAYMENT, LAST PARAGRAPH SHALL BE REPLACED WITH THE FOLLOWING:

The unit price shall be full compensation for furnishing all materials unless otherwise noted, the construction and installation of the materials into complete erosion or sediment control measures, and shall include all equipment, tools, labor, and incidentals necessary to complete the work, to maintain all work in an acceptable condition as long as deemed necessary by the Engineer, and to remove all items as directed.

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The City of Tuscaloosa

SECTION 01010 - SUMMARY OF WORK

1.0 GENERAL

1.1 APPLICATION

- A. The General Contractor and all Subcontractors shall familiarize themselves with the Bidding Requirements and Division 1 - General Requirements, and shall comply with all parts of these documents pertinent to their work.

1.2 WORK COVERED BY CONTRACT DOCUMENTS

- A. Generally, the Contract work includes all plant, labor, materials and equipment necessary to complete all work shown on the drawings and herein specified.
- B. The proposed work provides for the construction of approximately 1200 linear feet of 8" ductile iron gravity sanitary sewer, installed and accepted.
- C. Contractor's duties:
1. Except as specifically noted, provide and pay for:
 - a. Labor, materials and equipment.
 - b. Tools, construction equipment and machinery.
 - c. Temporary facilities required for construction.
 - d. Other facilities and services necessary for proper execution and completion of work.
 - e. Insurance as required by the Contract Documents.
 2. Pay legally required sales, consumer and use taxes.
 3. Secure and pay for, as necessary for proper execution and completion of work, and as specified at time of receipt of bids:
 - a. Permits
 - b. Government fees
 - c. License
 4. Give required notices.
 5. Comply with codes, ordinances, rules, regulations, orders and other legal requirements of public authorities which bear on performance of work.
 6. Promptly submit written notice to the Engineer of observed variances of contract documents from legal requirements.
 7. Enforce strict discipline and good order among employees.
 8. Verify measurements at site and accept responsibility for accuracy of same.
 9. Remove obstructions as necessary for proper completion of work.

1.3 CONTRACT

- A. Construct the work under single unit price contract.

1.4 CONTRACTOR'S USE OF PREMISES

- A. Confine operations at site to areas permitted by:
1. Law
 2. Ordinances
 3. Permits
 4. Contract Documents
 5. The City of Tuscaloosa
- B. Do not unreasonably encumber site with materials or equipment.
- C. Do not load slabs, walks or drive surfaces with weight that may endanger structures.
- D. Assume full responsibility for the protection and safekeeping of products stored on premises.
- E. Coordinate any interruption in utility service and obtain permission from Owner prior to interruption. Utility services shall be kept in service unless absolutely necessary. Notify utility customers of any interruptions in service.
- F. Protect existing underground utilities. Use caution in excavating and compacting.
- G. Coordinate all traffic control with the City of Tuscaloosa and/or ALDOT depending on location of work.

2.0 PRODUCTS

NOT USED

3.0 EXECUTION

NOT USED

4.0 MISCELLANEOUS PROVISIONS

- A. The General contractor will indemnify and hold harmless the owner (The City of Tuscaloosa), and engineer (Burk-Kleinpeter, Inc.) and their employees, agents, subcontractors, and leased workers from and against all claims of any sort relating to or in any way arising out of or resulting from performance of the work described in this agreement or from any failure by the General Contractor

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or its' subcontractors or leased workers to observe any term or condition contained in the drawings and/or specifications for the project and all addenda thereto. The indemnity includes, but is not limited to, claims for injury or death to person or damage to personal property, claims on infringement of any intellectual or design property rights, and penalties imposed on account of any violation of or failure to comply with any law or regulation by the General Contractor or its Subcontractors, or leased workers. The General Contractor and its Subcontractor will maintain all such insurance as is necessary to cover these indemnity obligations under his agreement and to protect the Owner (The City of Tuscaloosa), and Engineer (Burk-Kleinpeter, Inc.), from claims under workers' compensation laws or statutes and any other claims for injury, death, or damage. The Trade Package Contractors shall name Burk-Kleinpeter, Inc., and the City of Tuscaloosa as an additional insured on any policy protecting the project and the interest of the owner.

END OF SECTION 01010

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The City of Tuscaloosa

SECTION 01015 - MISCELLANEOUS REQUIREMENTS

1.0 GENERAL

1.1 DIVISIONS AND SECTIONS

- A. Separation of these specifications into Divisions and Sections is done for convenience only and is not intended to establish responsibilities of work, nor shall it operate to make the Owner's Representative arbiter to establish limits to the Contracts between Contractor and Subcontractors.
- B. Bidding and Contract Requirements
 - 1. The Contractor, by execution of the subject documents agrees to comply with all applicable contract conditions.

1.2 NOT IN CONTRACT

- A. Items indicated on drawings as "NIC", or noted "Not in Contract", are shown for convenience only and are not a part of this Contract.

1.3 ACCEPTANCE

- A. Signing of the Contract will be deemed evidence that site and documents have been examined and that the Contractor is familiar with conditions under which the work will be done.
- B. The Contractor shall verify measurements at site and accept responsibility for accuracy of same. The beginning of work indicates acceptance of conditions under which the work will be done.
- C. Extra payments will not be authorized for work that could have been determined by a careful examination of site conditions and coordination with the Contract Documents.

1.4 FACILITATING OVERHEAD UTILITIES

- A. The Contractor shall examine the site in detail in conformance with other requirements of these specifications. All overhead utilities are not shown on the drawings but are to be noted by the Contractor prior to submission of a bid. Contractor accepts responsibility for execution of the contract duties by submission of his bid.
- B. The responsibility of the Contractor includes facilitating overhead lines throughout the completion of the project and assuming all costs for coordinating, de-energizing, re-energizing, temporarily relocating, permanently relocating, or using special construction methods to complete the work as indicated.

1.5 INTERFERENCES

- A. Drawings are generally diagrammatic. Contractor shall organize or coordinate his work with that of the different trades so that interferences of different equipment, piping, etc., shall be avoided and each piece of equipment, piping, etc., installed to function properly.
- B. In the case where interference develops, the Engineer is to be consulted to determine which equipment, piping, etc., is to be relocated regardless of which item was first installed.

1.6 PERMITS

- A. The Contractor shall obtain and pay for all required permits and inspection certificates.
- B. The contractor shall pay all fees associated with obtaining any permits.

1.7 NOTICE TO PROCEED

- A. After notification from the Owner that the Contractor has signed the construction contract and submitted all necessary bonds, etc., the Owner's Representative shall send the Contractor a written "Notice to Proceed". The Engineer will issue the Owner's Notice to Proceed directing the Contractor to start work within ten (10) days after the date of the Notice to Proceed.
- B. The contract time shall commence with the issuance of the Notice to Proceed. The Notice to Proceed shall include the following information:
 - 1. Number of calendar days in the construction contract.
 - 2. Date of the beginning and end of the contract time.
 - 3. Liquidated damages.
 - 4. A statement indicating the Owner's intention to collect liquidated damages if the Contractor exceeds the contract time and any approved extensions.

1.8 JOBSITE MAINTENANCE

- A. Keep areas within and about working and storing spaces free from trash, debris, garbage, etc.
- B. Throughout the construction period, dirt and dust accumulated in the working, storing and access roadway areas shall be kept to a minimum.
- C. Contractor shall be responsible for all erosion control measures. Signing of the contract will be deemed evidence that the contractor understands his responsibility to implement and maintain proper erosion control measures until acceptance of the project by the owner.

1.9 PERSONNEL AND EQUIPMENT

Disaster Recovery Streets Reconstruction
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- A. Maintain a construction force at site, including competent, qualified superintendent, mechanics, craftsmen and laborers, sufficient to expedite work to completion on date indicated in Contract Documents.
- B. Maintain construction equipment at site, in good condition, sufficient for efficient execution of work.
- C. A responsible member of Contractor's organization shall be kept on site while work is in progress as herein specified. All communications given to the Superintendent, or his assistant in his absence, shall be as binding as if given to the Contractor.

1.10 LOCATION

- A. State right-of-way markers and/or reference points are shown on plans for general location use. Contractor is responsible for locating them and ensuring that all work is performed in required location as shown on plans.

1.11 OBSTRUCTION TO CONSTRUCTION

- A. The Contractor shall anticipate and remove all subsurface as well as above surface obstructions to construction of his work, unless information on subsurface obstructions is not available.
- B. The Contractor shall notify the Utility companies and/or the using agency well in advance of any work in order to coordinate location and/or disruption of services.

1.12 DEMANDS AND CAUSES OF ACTION

- A. Contractor shall defend, indemnify, and hold harmless Owner and Engineer and their agents, employees, related and companion corporations (collectively referred to as Owner and Engineer) from and against any and all claims, demands, and personal injury, wrongful death, or property damage, in any way arising out of or resulting from, directly or indirectly, errors, omissions, or negligence related to the work performed by the Contractor or any of his subcontractors, suppliers, agents, or any party under the contract, including all damages, losses, expenses, attorneys' fees and costs.
- B. These defense and indemnification obligations are due regardless of whether or not the claims, demands, or causes of action result from the Owner's and/or Engineer's sole, joint, concurrent, or partial negligence, strict liability, fault, or breach of any contract, statute, or law. The parties to this contract also agree that the indemnitor(s) shall reimburse the indemnitee(s) for any and all attorneys' fees, costs, and other expenses associated with the enforcement of this or any other provision in the contract.

1.13 EXISTING UNDERGROUND UTILITIES

- A. The Contractor shall verify the location of all existing off site underground utilities, which he is to relocate or to which he is to connect his work.
- B. Interruption of Services
 - 1. It is essential that all utilities be kept in operation at all times, except when specific written permission of the Owner is given to the contrary. Before any lines are shutdown for tie-ins or rearranging of services, arrangements shall be made a minimum of 48 hours in advance with the Owner. It may be necessary to do this work at night, on Sunday or at a special time of the year, as the Owner may direct, with the length of shutdown agreed upon before work is begun. Any overtime work costs in this connection shall be borne by the Contractor. Normally, only one shutdown will be allowed. The length of shutdown shall be held to a minimum. All residences affected by shutdown shall be notified at least 48 hours in advance.
- C. Protection of Existing Underground Utilities
 - 1. The contractor is responsible for thorough protection of existing underground utilities within the limits of work. Where utilities are to be encountered, only hand digging shall be allowed. Any damage must be immediately repaired to restore service to the Owner including work at night and weekends.

1.14 WATCHMAN

- A. Services of a watchman are not required, but the Contractor shall be fully responsible for and shall provide reasonable protection to prevent damage to all the work and all materials and equipment to be incorporated therein.

1.15 SUPERINTENDENCE

- A. The Contractor shall employ a competent Superintendent and necessary assistants who shall be in attendance at the project site during the progress of the Work. The Owner's Representative shall be advised of the Superintendent to be employed and he shall not be changed, except with the consent of the Engineer, unless Superintendent proves to be unsatisfactory to the Contractor and ceases to be in his employ. The Superintendent shall represent the Contractor and all communications given to the Superintendent shall be as binding as if given to the Contractor. Important communications will be confirmed in writing. Other communications will be so confirmed on written request in each case.

1.16 SERVICE CHARGES

- A. Include all service charges that may be applicable for execution and completion of the Work.

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- B. Temporary service charges shall be determined by Contractor's arrangements with respective Utility Companies.
- 1.17 FINES**
- A. Any fines associated with the project during construction (erosion control violations, encroachment on private property and/or public right-of-way, etc.) shall be the responsibility of the Contractor. The Owner shall not be responsible for payment of any such fines.
- 1.18 SALVAGE AND DISPOSITION OF MATERIAL AND EQUIPMENT**
- A. The Owner shall have priority for the selection of salvaged equipment and materials. Any equipment and materials selected to remain the property of the Owner shall be removed and delivered to a location as designated by the Owner on the Site. Material not retained by the Owner shall become the property of the Contractor and shall be removed from the site by him at no direct cost to the Owner.
- 1.19 RESIDENT PROJECT REPRESENTATIVE**
- A. The Engineer may furnish a Resident Project Representative and assistants to aid Engineer in carrying out his responsibilities at the site.
- 1.20 INSURANCE**
- A. The successful contractor shall file with the City of Tuscaloosa, at the time of delivery of the signed contract, satisfactory evidence of insurance, the requirements as set forth in the contract agreement. Satisfactory evidence of insurance shall include at a minimum, the insurers standard "Certificate of Insurance" (modified pursuant to insurance requirements of the contract agreement) and the affidavit of insurance. If the City of Tuscaloosa deems that additional evidence or clarifications, etc. of insurance is appropriate, the bidder shall promptly furnish the same to the City of Tuscaloosa upon request.
- 1.21 EXAMINATION OF CONTRACT DOCUMENTS AND OF THE SITE OF THE PROJECT**
- A. Before submitting a bid proposal for the project, each bidder shall carefully examine the Contract Documents, including but not limited to plans, drawings, specifications, contract, etc., visit the site, and satisfy itself as to the nature and location of the Project, and the general and local conditions, including weather, the general character of the site or building, the character and extent of existing work within or adjacent to the site, any other work being performed or proposed thereon at the time of submission of their bids. It shall obtain full knowledge as to transportation, disposal, handling, and storage of materials, availability of water, electric power, and all other facilities in the area which will have a bearing on the performance of the Project for which they submit their proposals. The submission of a proposal shall be prima facie evidence that the bidder has made such examination and visits and has judged for and satisfied himself as to conditions to be encountered regarding the character, difficulties, quality, and quantities of work to be performed and the material and equipment to be furnished, and as to the contract requirements and contingencies involved. It shall be the Bidder's obligation to verify for himself and to his complete satisfaction, all information concerning site and surface conditions.
- 2.0 PRODUCTS**
NOT USED
- 3.0 EXECUTION**
NOT USED

END OF SECTION 01015

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SECTION 01025 - MEASUREMENT AND PAYMENT

1.0 GENERAL

1.1 SECTION INCLUDES

- A. Measurement and payment criteria applicable to portions of the Work performed under a unit price payment method.
- B. Defect assessment and non-payment for rejected work.

1.2 AUTHORITY

- A. Measurement methods delineated in the individual specifications sections complement the criteria of this section. In the event of conflict, the requirements of the individual specification section govern.
- B. Take all measurements and compute quantities. The Engineer will verify measurements and quantities.
- C. Contractor shall assist by providing necessary equipment, workers, and survey personnel as required.

1.3 UNIT QUANTITIES SPECIFIED

- A. Quantities indicated in the Bid Form are for bidding and contract purposes only. Quantities and measurements supplied or placed in the Work and verified by the Engineer determine payment.
- B. If the actual work requires more or fewer quantities than those quantities indicated, provide the required quantities at the unit sum/prices contracted.
- C. If the actual Work requires a 25 percent or greater change in quantity than those quantities indicated, the Owner or Contractor may claim for a Contract Price Adjustment.

1.4 MEASUREMENT OF QUANTITIES

- A. Measurement by Volume: Measured by cubic dimension using mean length, width and height or thickness.
- B. Measurement by Area: Measured by square dimension using mean length and width or radius.
- C. Linear Measurement: Measured by linear dimension, at the item centerline or mean chord.
- D. Stipulated Sum/Price Measurement: Items measured by weight, volume, area or linear means or combination, as appropriate, as completed item or unit of the Work.

1.5 PAYMENT

- A. Payment Includes: Full compensation for all required labor, products, tools, equipment, plant, transportation, services and incidentals; erection, application or installation of an item of the Work; overhead and profit.
- B. Final payment for the Work governed by unit prices will be made on the basis of the actual measurements and quantities accepted by the Engineer multiplied by the unit sum/price for Work which is incorporated in or made necessary by the Work.

1.6 DEFECT ASSESSMENT

- A. Replace the Work, or portions of the Work, not conforming to specified requirements.
- B. If, in the opinion of the Engineer, it is not practical to remove and replace the Work, the Engineer will direct one of the following remedies:
 - 1. The defective Work may remain, but the unit sum/price will be adjusted to a new sum/price at the discretion of the Engineer and Owner.
 - 2. The defective Work will be partially repaired to the instructions of the Engineer and Owner, and the unit sum/price will be adjusted to a new sum/price at the discretion of the Engineer and Owner.
- C. The Individual specification sections may modify these options or may identify a specific formula or percentage sum/price reduction.
- D. The authority of the Engineer and Owner to assess the defect and identify payment adjustment is final.

1.7 NON-PAYMENT FOR REJECTED PRODUCTS

- A. Payment will not be made for any of the following:
 - 1. Products wasted or disposed of in a manner that is not acceptable.
 - 2. Products determined as unacceptable before or after placement.
 - 3. Products not completely unloaded from the transporting vehicle.
 - 4. Products placed beyond the lines and levels of the required Work.
 - 5. Products remaining on hand after completion of the Work.
 - 6. Loading, hauling and disposing of rejected products.

2.0 PRODUCTS

NOT USED

3.0 EXECUTION

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NOT USED

END OF SECTION 01025

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SECTION 01035 - CHANGE ORDERS

1.0 GENERAL

1.1 CHANGE ORDER PROCEDURES

- A. Without invalidating the Contract, the Owner may make reasonable changes by altering, adding to, or deducting from the Work, the Contract Price being adjusted accordingly. No claim for extra work or materials shall be allowed and no alteration of or deduction from the work shall be made, unless same is ordered in writing by the Owner.
- B. Where changes ordered by the Owner involve a monetary consideration, the Contract shall be adjusted by negotiation with the terms of said negotiation being expressed in a supplemental agreement or Change Order signed by the Owner, the Contractor and the Engineers.
- C. If the Owner and the Contractor are unable to reach an agreement as to the monetary consideration of a Contract addition, the Engineers acting as the Owner's representative may order the Contractor to do such work on a force account or time and materials basis.
- D. The Contractor shall furnish labor, equipment and materials necessary to complete the work in a satisfactory manner and within a reasonable period of time. For the work performed, payment will be made for the documented actual necessary expense of the following:

1. Field labor and foremen, who are directly assigned to the time and materials work (actual payroll cost, including wages, fringe benefits as established by negotiated labor agreements, and labor taxes as established by law). The cost of labor shall include any payment to or on behalf of the worker for health and welfare, pension, vacation and similar purposes. Where subsistence and travel allowances are required for performance of extra work, the charges shall consist of the actual amount paid to each worker. No other fixed labor burdens will be considered unless approved in writing by the Owner.
2. Material delivered and used on the designated work, including sales tax, if paid by the Contractor or his subcontractor.
3. Rental, or equivalent rental cost of equipment, including necessary transportation, for items having a value in excess of \$200. When equipment is not rented, the equivalent rental cost of equipment shall be based on the standard rental rate for Contractor-owned equipment, but in no event shall exceed the locally adjusted rental rates set forth in the "Rental Rate Blue Book for Construction Equipment" and the "Rental Rate Blue Book for Older Construction Equipment" which are published by the K-III Directory Corporation, 1735 Technology Drive, Suite 410, San Jose, California 95110. For equipment not listed in said documents, the rental rate shall be as listed for the local section of the Associated General Contractors. If the equipment is not listed by the Associated General Contractors, the rental rate will be mutually agreed upon in writing between the Contractor and the Owner prior to the use of said unlisted equipment. The reasonable cost of moving equipment onto and off the jobsite shall be included, but equipment rental shall not be paid when the equipment is inoperative due to breakdowns. Individual pieces of equipment or small tools considered as included in the overhead allowance and no additional payment therefore shall be made.

When equipment is used on the extra work for less than five (5) days, daily rates shall be used. When equipment is used on the extra work for more than four (4) days, weekly rates shall apply. Less than four (4) hours of operation shall be considered to be 1/2 day of operation. More than 5 hours of operation shall be considered a day if performed on a single day. Less than thirty (30) minutes of operation shall be considered 1/2 hour of operation.

Rental or equivalent rental cost will be allowed for only those days or hours during which the equipment is in actual use. Rental and transportation allowances shall not exceed the current equipment cost and shall be understood to cover all fuel, supplies, repairs, and renewals.

The Owner reserves the right to furnish such materials and equipment as he deems expedient, and the Contractor shall have no claim for profit or added fees on the cost of such materials and equipment.

4. One percent (1%) for additional bond, when required and approved by the Owner.
5. Additional insurance (other than labor insurance) as required and approved by the Owner.
6. Professional services shall be included in "actual necessary expense" only when the Owner has determined that such services are necessary and the provision of such services has been authorized in advance in writing by the Engineer.

To the preceding actual necessary expenses, there shall be added the following fixed fees for either the Contractor or subcontractor actually executing the work:

- A fixed fee of 15 percent (15%) of the cost of Item 1.
- A fixed fee of 10 percent (10%) added to the cost of Items 2 and 3.
- A fixed fee of 6 percent (6%) added to the cost of Items 4 and 5.

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A fixed fee of 10 percent (10%) added to the cost of Item 6.

An additional fixed fee of 10 percent (10%) shall be allowed the Contractor for the administrative handling of portions of the Work that are executed by an approved subcontractor. No additional fixed fee will be allowed for the administrative handling of work executed by a subcontractor of a subcontractor, unless by written permission from the Owner.

The added fixed fees shall be full compensation for the cost of general supervision, overhead, profit, and any other general expense.

If a dispute occurs over payment for work provided on a time and material basis, the dispute shall not be cause of stopping work.

The Contractor shall maintain accurate records for all work performed on a time and material basis. These records will reflect all the actual necessary expenses pertaining to the extra work and shall at all times be available for audit by the Owner.

The Contractor's records shall make clear distinction between the direct costs of work paid for on a time and material basis and costs of other work. The Contractor shall furnish the Engineer report sheets in duplicate of each day's work. The daily report sheets shall itemize the labor, materials and equipment used. The daily report sheets shall provide names, identifications and classifications of workers, the hours worked, the sizes, types and identification numbers of equipment, and hours operated. Daily report sheets shall be signed by the Contractor or his authorized agent and verified by the Engineer.

To receive partial payments and final payment for time and materials work, the Contractor shall submit to the Engineer in a manner approved by the Engineer, detailed and complete documented verification of the Contractor's and any of his subcontractor's actual costs incurred. Material and rental charges shall be substantiated by copies of vendor's invoices. Such costs shall be submitted within thirty (30) days after said work has been satisfactorily completed.

- E. If the owner proposes to make a change in the Work, the Engineer will request that the Contractor provide a cost proposal for making the change to the Work. The request shall be in writing and shall adequately describe the proposed change using drawings, specifications, narrative, or a combination thereof. Within 21 days after receiving such a request, or such other time as may be stated in the request, the Contractor shall prepare and submit to the Engineer a written proposal, properly itemized and supported by sufficient substantiating data to facilitate evaluation. The stated time within which the Contractor must submit a proposal may be extended if, within that time, the Contractor makes a written request with reasonable justification thereof.
- F. The contractor may voluntarily offer a change proposal which, in the Contractor's opinion, will reduce the cost of construction, maintenance, or operation or will improve the cost-effective performance of an element of the Project, in which case the Owner, through the Engineer, will accept, reject, or respond otherwise within 21 days after receipt of the proposal, or such other reasonable time as the Contractor may state in the proposal.
- G. If the Contractor's proposal is acceptable to the Owner, or is negotiated to the mutual agreement of the Contractor and Owner, the Engineer will prepare an appropriate Contract Change Order for execution. Upon receipt of the fully executed Contract Change Order, the Contractor shall proceed with the change.
- H. In advance of delivery of a fully executed Contract Change Order, the Engineer may furnish to the Contractor a written authorization to proceed with an agreed change. However, such and authorization shall be effective only if it:
 - a) identifies the Contractor's accepted or negotiated proposal for the change,
 - b) states the agreed adjustments, if any, in Contract Sum and Contract Time,
 - c) states that funds are available to pay for the change, and
 - d) is signed by the Owner
- I. If the Contractor and Owner cannot agree on the amount of the adjustment in the Contract Sum for a change, the Owner, through the Engineer, may order the Contractor to proceed with the change on a Force Account basis, but the net cost to the Owner shall not exceed the amount quoted in the Contractor's proposal. Such order shall state that funds are available to pay for the change.
- J. If the Contractor does not promptly respond to a request for a proposal, or the Owner determines that the change is essential to the final product of the Work and that the change must be effected immediately to avoid delay of the Project, the Owner may:
 - a) determine with the Contractor a sufficient maximum amount to be authorized for the change and
 - b) direct the Contractor to proceed with the change on a Force Account basis pending delivery of the Contractor's proposal, stating the maximum increase in the Contract Sum that is authorized for the change.

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- K. Pending agreement of the parties or final resolution of any dispute of the total amount due the Contractor for a change in the Work, amounts not in dispute for such changes in the Work may be included in Applications for Payment accompanied by an interim Change Order indicating the parties' agreement with part of all such costs or time extension. Once a dispute is resolved, it shall be implemented by preparation and execution of an appropriate Change Order.
- L. All changes orders must be approved in writing with an approved cost of labor and material before any work shall be performed.

2.0 **PRODUCTS**
NOT USED

3.0 **EXECUTION**
NOT USED

END OF SECTION 01035

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SECTION 01040 - COORDINATION

1.0 GENERAL

1.1 DESCRIPTION OF RESPONSIBILITIES

- A. The Contractor shall coordinate scheduling, submittals and work of the various sections of the Specification to assure efficient and orderly sequence of installation of construction elements, with provisions for accommodating items to be installed later.
- B. Each Contractor and subcontractor involved shall assume all liability, financial or otherwise, in connection with his work and shall protect and save harmless the Owner from any and all damages or claims that may arise because of inconvenience, delay or loss experienced by him because of the presence and operations of any other Contractors working within the limits of this project.
- C. The Contractor shall arrange his work and shall place and dispose of the materials being used so as not to interfere with operations of others working in the surrounding area. He shall join his work with that of others in an acceptable manner and shall perform it in proper sequence to that of the others.
- D. The contracting agency will not be responsible for any delays or inconvenience to the Contractor in carrying on his work while any public utility companies or agencies are making necessary adjustments of their fixtures or appurtenances, nor will the contracting agency be responsible for any cost incurred by the Contractor or utility owners for making said adjustments, by delays, etc.

1.2 EASEMENTS AND RIGHT-OF-WAY (SERVITUDE)

- A. The easements and rights-of-way for the work will be provided by the Owner if any are necessary, Contractor shall confine his construction operations within the limits indicated on the drawings, and shall use due care in placing construction tools, equipment, excavated materials, and pipeline materials and supplies, so as to cause the least possible damage to property and interference with traffic.
- B. Servitudes across private property, if they exist, are indicated on the Drawings. Contractor shall set stakes to mark the boundaries of construction servitudes across private property. The stakes shall be protected and maintained until completion of construction and cleanup. The Contractor shall not at any time encroach within the railroad right-of-way.
- C. All Work performed and all operations of Contractor, his employees or Subcontractors, within the limits of rights-of-way, shall be in conformity with the requirements and be under the control (through Owner) of the authority owning, or having jurisdiction over and control of, the right-of-way.

1.3 NOTICES TO OWNERS AND AUTHORITIES

- A. Contractor shall, as provided in General Conditions, notify owners of adjacent property and utilities when prosecution of the Work may affect them.
- B. When it is absolutely necessary to temporarily deny access by owners or tenants to their property, or when any utility service connection must be interrupted, Contractor shall give notices sufficiently in advance to enable the affected persons to provide for their needs. Notices shall conform to any applicable local ordinance and, whether delivered orally or in writing, shall include appropriate information concerning the interruption and instruction on how to limit their inconvenience.
- C. Utilities and other concerned agencies shall be contacted at least 24 hours prior to cutting or closing streets or other traffic areas or excavating near underground utilities or pole lines.

1.4 CONNECTIONS TO EXISTING FACILITIES

- A. Unless otherwise specified or indicated, Contractor shall make all necessary connections to existing facilities including structures, drain lines, and utilities such as water, sewer, and electric. In each case, Contractor shall receive permission from Owner or the owning utility prior to undertaking connections. Contractor shall protect facilities against deleterious substances and damage.
- B. Connections to existing facilities, which are in service, shall be thoroughly planned in advance, and all required equipment, materials and labor shall be on hand at the time of undertaking the connections. Work shall proceed continuously (around the clock) if necessary to complete connections in the minimum time. Operation of valves or other appurtenances on existing utilities, when required, shall be by or under the direct supervision of the owning utility.
- C. Materials shall be cut and removed to the extent indicated on the Plans or as required to complete the Work. Materials shall be removed in a careful manner with no damage to adjacent facilities or materials. Materials which are not salvageable shall be removed from the site by Contractor.
- D. All Work and existing facilities affected by cutting operations shall be restored with new materials, or with salvaged materials acceptable to Engineer, to obtain a finished installation with the

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strength, appearance, and functional capacity required. If necessary, entire surfaces shall be patched and refinished.

- 2.0 **PRODUCTS**
NOT USED
- 3.0 **EXECUTION**
NOT USED

END OF SECTION 01040

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SECTION 01043 - JOB SITE ADMINISTRATION

1.0 GENERAL

1.1 DESCRIPTION OF RESPONSIBILITIES

- A. Contractor shall be responsible for all areas of the site used by him, and all Subcontractors in the performance of the Work.
- B. Contractor will exert full control over the actions of all employees and other persons with respect to the use and preservation of property and existing facilities, except such controls as may be specifically reserved to Owner or others.
- C. Contractor has the right to exclude from the site all persons who have no purpose related to the Work or its inspection, and may require all persons on the site (except Owner's employees) to observe the same regulations as he requires of his employees.

2.0 PRODUCTS

NOT USED

3.0 EXECUTION

NOT USED

END OF SECTION 01043

SECTION 01045 - CUTTING AND PATCHING

1.0 GENERAL

1.1 DESCRIPTION

- A. Contractor shall be responsible for all cutting, fitting and patching, including excavation and backfill, required to complete the Work or to:
1. Make its several parts fit together properly.
 2. Uncover portions of the Work to provide for installation of ill-timed work.
 3. Remove and replace defective work.
 4. Remove and replace work not conforming to requirements of Contract Documents.
 5. Remove samples of installed work as specified for testing.
 6. Provide routine penetrations of non-structural surfaces for installation of piping and electrical conduit.
- B. Related Requirements are specified in all other DIVISIONS.

1.2 SUBMITTALS

- A. The Contractor shall submit a written request to the Owner's Representative well in advance of executing any cutting or alteration which may affect:
1. The work of the Owner or any separate contractor.
 2. The structural value or integrity of any element of the Project.
 3. The integrity of effectiveness of weather-exposed or moisture-resistant elements or systems.
 4. The efficiency, operational life, maintenance or safety of operational elements.
 5. The visual qualities of sight-exposed elements.
- B. The request shall include:
1. Identification of the Project.
 2. Location and description of the affected work.
 3. The necessity for cutting, alteration or excavation.
 4. The effect on the work of the Owner or any separate contractor, or on the structural or weatherproof integrity of the Project.
 5. Description of the proposed work:
 - a. The scope of cutting, patching, alteration, or excavation.
 - b. The trades who will execute the work.
 - c. Products proposed to be used.
 - d. The extent of refinishing to be done.
 6. Alternatives to cutting and patching.
 7. Cost proposal, when applicable.
 8. Written permission of any separate contractor whose work will be affected.
 9. Date and time work will be executed.
- C. Should conditions of the work or the schedule indicate a change of products from the original installation, Contractor shall submit a request substitution.
- D. Contractor shall not undertake any cutting or demolition which may affect the structural stability of the existing facilities without Engineer's concurrence.

2.0 PRODUCTS

2.1 MATERIALS

- A. Comply with specifications and standards for each specific product involved.

3.0 EXECUTION

3.1 INSPECTION

- A. The Contractor shall inspect existing conditions of the Project, including elements subject to damage or to movement during cutting and patching.
- B. After uncovering work, the Contractor shall inspect the conditions affecting the installation of Products, or performance of the work. Beginning of cutting or patching means acceptance of existing conditions.
- C. Report unsatisfactory or questionable conditions to the Owner's Representative in writing; do not proceed with the work until the Owner's Representative has provided further instructions.

3.2 PREPARATION

- A. The Contractor shall provide adequate temporary support as necessary to assure the structural value or integrity of the affected portion of the Work. Contractor shall provide all shoring, bracing, supports, and protective devices necessary to safeguard all Work during cutting and patching operations.
- B. Provide devices and methods to protect other portions of the Project from damage.

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- C. Provide protection from the elements for that portion of the Project which may be exposed by cutting and patching work, and maintain excavations free from water.

3.3

PERFORMANCE

- A. The Contractor shall execute cutting and demolition by methods which will prevent damage to other work, and will provide proper surfaces to receive installation of repairs.
- B. Provide devices and methods to protect other portions of the Project from damage.
- C. Provide protection from the elements for that portion of the Project which may be exposed by cutting and patching work, and maintain excavations free from water.
- D. Execute excavating and backfilling by methods which will prevent settlement or damage to other work.
- E. Execute fitting and adjustment of products to provide a finished installation to comply with specified products, functions, tolerances and finishes.
- F. Restore work which has been cut or removed; install new products to provide completed Work in accordance with requirements of Contract Documents.
- G. Fit work airtight to pipes, sleeves, ducts, conduit and other penetrations through surfaces.
- H. Refinish entire surfaces as necessary to provide an even finish to match adjacent finishes:
1. For continuous surfaces, refinish to nearest intersection.
 2. For an assembly, refinish the entire unit.

END OF SECTION 01045

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SECTION 01050 - FIELD ENGINEERING AND SURVEYING

1.0 GENERAL

1.1 REQUIREMENTS INCLUDED

- A. Contractor shall provide and pay for field engineering services and field surveying required for Project.
 - 1. Survey work required in execution of Project.
 - 2. Civil, structural or other professional engineering services specified, or required to execute Contractor's construction methods.

1.2 RELATED REQUIREMENTS

- A. DIVISION 1

1.3 QUALIFICATIONS OF SURVEYOR OR ENGINEER

- A. Registered professional engineer or registered land surveyor of the discipline required for the specific service of the Project, licensed in the State of Alabama and acceptable to the Owner.

1.4 QUALITY CRITERIA

- A. Contractor shall perform the following:
 - 1. Verify existing grades prior to beginning site preparation. If existing grades are at variance with drawings, notify Engineer and receive instructions prior to proceeding.
- B. Notify Engineer, in writing of on-site conditions which are at variance with the Contract Documents.

1.5 SURVEY REFERENCE POINTS

- A. The basic horizontal and vertical control points for the Project should be those designated on Drawings. All additional survey, layout, and measurement Work shall be performed by Contractor as a part of the Work. Contractor shall verify all existing grades prior to beginning work on the site.
- B. Contractor shall locate verify and protect control points prior to starting work, and preserve all permanent reference points during construction.
 - 1. Make no changes or relocations without prior written notice to the Engineer.
 - 2. Report to Engineer when any reference point is lost or destroyed, or required relocation because of necessary changes in grades or locations.
 - 3. Require surveyor to replace Project control points which may be lost or destroyed.
 - a. Establish replacements based on original survey control.
- C. Contractor is responsible for all control points and staking.

1.6 PROJECT SURVEY REQUIREMENTS

- A. Establish temporary bench marks as needed referenced to data established by survey control points.
- B. Establish lines and levels, locate and lay out, by instrumentation and similar appropriate means.
- C. From time to time, as directed by the Engineer, verify layouts by same methods.
- D. Contractor shall provide an experienced instrument man, competent assistants, and such instruments, tools, stakes, and other materials required to complete the survey, layout and measurement of Work.
- E. Contractor shall furnish, without charge, competent men from his force and such tools, stakes, and other materials as Engineer may require in establishing or designating control points, in establishing construction easement boundaries, or in checking survey, layout, and measurement of Work performed by Contractor.

1.7 RECORDS

- A. Maintain a complete, accurate log of all control and survey work as it progresses.
- B. Contractor shall keep neat and legible notes of measurements and calculations made by him in connection with the layout of the Work. Copies of such data shall be furnished to the Resident Project Representative for use in checking Contractor's layout.
- C. All field notes and layout data shall be recorded in bound field books.

2.0 PRODUCTS

NOT USED

3.0 EXECUTION

NOT USED

END OF SECTION 01050

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SECTION 01210 - PRECONSTRUCTION CONFERENCES

1.0 GENERAL

1.1 RELATED WORK

NOT USED

1.2 DESCRIPTION

- A. Prior to the commencement of Work at the site, a preconstruction conference may be held at a mutually agreed time and place. The conference shall be attended by:
1. Owner's Representative.
 2. Using Agency's Representative.
 3. Engineer, his Professional Consultants, and his Project Representative.
 4. Contractor.
 5. Contractor's Superintendent.
 6. Others as Appropriate.
- B. Unless previously submitted to Engineer, Contractor shall bring to the conference a tentative schedule for each of the following:
1. Schedule of Values.
 2. List of Subcontractors.
 3. List of major material suppliers.
 4. Construction Schedule.
 5. Procurement Schedule.
 6. Shop Drawings and Submittal Schedule.
- C. The purpose of the conference is to designate responsible personnel and establish a working relationship. Matters requiring coordination will be discussed and procedures for handling such matters established. The agenda will include:
1. Contractor's tentative schedules.
 2. Transmittal, review, and distribution of Contractor's submittals.
 3. Processing applications for payment.
 4. Maintaining record documents.
 5. Critical Work sequencing.
 6. Field decisions and Change Orders.
 7. Use of premises, office and storage areas, security, housekeeping, and Owner's needs.
 8. Major equipment deliveries and priorities.
 9. Contractor's assignments for safety and first aid.
 10. Submission of executed bonds and insurance certificates if not previously submitted.
- D. The Owner's Representative will preside at the conference and will arrange for keeping the minutes and distributing the minutes to all persons in attendance.

2.0 PRODUCTS

NOT USED

3.0 EXECUTION

NOT USED

END OF SECTION 01210

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SECTION 01300 - SUBMITTALS

1.0 GENERAL

1.1 SECTION INCLUDES

- A. This section of specifications covers the General Requirements for the preparation and assembly of submittals during the progress of the work. Any questions concerning the submittal process should be directed to the Engineer.

1.2 ADMINISTRATIVE SUBMITTALS

- A. All administrative submittals required in the Bid Documents, General Conditions, Supplementary Conditions, or Technical Specifications shall be provided by the Contractor. These submittals include but are not limited to payrolls, construction schedules, EEO documentation (if required), etc.
- B. All permits to Federal, State or Local authorities shall be submitted promptly by the Contractor.
- C. The Contractor shall submit to the Engineer on a daily basis the number of persons employed in the construction process, both contractor and subcontractor personnel, their classification, equipment used during the day, equipment added or deleted from the jobsite and the amount of work accomplished in each classification of work performed that day.

1.3 TECHNICAL SUBMITTALS

- A. Completely identify each submittal and resubmittal by showing at least the following information.
1. Name and address of submitter, plus name and telephone number of the individual who may be contacted for further information.
 2. Name of project as it appears in the bid documents.
 3. Drawing number and specifications section number to which the submittal applies.
 4. Whether this is an original submittal or resubmittal.
- B. Prior to submittal for Engineer's review, use all means necessary to fully coordinate all material, including the following procedures:
1. Determine and verify all field dimensions and conditions, materials, catalog numbers, and similar data.
 2. Coordinate as required with all trades and with all public agencies involved.
 3. Secure all necessary approvals from public agencies and others and signify by stamp, or other means, that they have been secured.
 4. Clearly indicate all deviations from the Contract Documents.
- C. Grouping of submittals: Unless otherwise specifically permitted by the Engineer, make all submittals in groups containing all associated items; the Engineer may reject partial submittals as not complying with the provisions of the Contract Documents.
- D. General: Make all submittals far enough in advance of scheduled dates of installation to provide all required time for reviews, for securing necessary approvals, for possible revision and resubmittal, and for placing orders and securing delivery.
- E. In scheduling, allow at least seven full working days for the Engineer's review following his receipt of the submittal.
1. Delays: Cost of delays occasioned by tardiness of submittals may be back charged as necessary and shall not be borne by the Owner.

1.4 SUBSTITUTIONS

- A. Engineer's Approval Required: The Contract is based on materials, equipment, and methods described in the Contract Documents:
1. The Engineer will consider proposals for substitution of materials, equipment, and methods only when such proposals are accompanied by full and complete technical data and all other information required by the Engineer to evaluate the proposed substitution.
 2. Do not substitute materials, equipment, or methods unless such substitution has been specifically accepted, in writing, for this work by the Engineer.
- B. Or Equal: Where the phrase "or equal" or "or equal as approved by the Engineer" occurs in the Contract Documents, do not assume that material, equipment, or methods will be approved as equal by the Engineer unless the item has been specifically accepted, in writing, for this work by the Engineer.
1. The decision of the Engineer shall be final.

1.5 SHOP DRAWINGS

- A. Scale Required:
1. Unless otherwise specifically directed by the Engineer, make all Shop Drawings accurately to a scale sufficiently large to show all pertinent features of the item and its method of connection to the work.
- B. Types of Prints Required:

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1. Unless otherwise specifically directed by the Engineer, make all Shop Drawing prints in blue or black line on white background.
- C. Number of Prints Required:
 1. Submit all Shop Drawings in the quantity which is required to be returned plus three copies which will be retained by the Engineer.

1.6 COPIES REQUIRED

- A. In general, unless directed otherwise by the Engineer, the Contractor's submittals shall be in sufficient quantities to allow 3 copies to be retained by the Engineer.

1.7 WORK PERFORMED PRIOR TO SUBMITTAL ACCEPTANCE

- A. Any and all work performed by the Contractor prior to submittal review shall be at the Contractor's risk. No payment shall be made on items prior to a reviewed submittal.

2.0 PRODUCTS

NOT USED

3.0 EXECUTION

NOT USED

END OF SECTION 01300

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SECTION 01310 - CONSTRUCTION SCHEDULES

1.0 GENERAL

1.1 WORK INCLUDED

- A. The Contractor shall prepare and submit to the Engineer at the Preconstruction Conference and on a monthly basis, estimated construction progress schedules for the Work with subschedules of related activities which are essential to its progress. Provide a minimum of six (6) copies.

1.2 RELATED WORK

- A. Section 01010 - Summary of Work
B. Section 01152 - Applications for Payment
C. Section 01340 - Shop Drawings, Engineering Data, Product Data and Samples

1.3 FORMAT OF SCHEDULES

- A. Prepare schedules in the form of a horizontal bar chart.
B. Provide separate horizontal bar for each trade or operation.
C. Identify the first work day of each week and of commencement of each Work Phase.
D. Scale and spacing shall to allow space for notations and future revisions.
E. Minimum sheet size: 11" x 17".
F. Format of listings shall match the table of contents of this Project Manual.
G. Listings shall be in the chronological order of the start of each item of work.
H. Listings shall be identified by major specification section numbers.
I. Listings of items other than major equipment shall include values of each item or portion of work which will not exceed \$50,000.

1.4 CONTENT OF SCHEDULES

- A. Show the complete sequence of construction by activity.
B. Show the dates for the beginning and completion of each major element of construction and each Work Phase.
C. Show projected percentage of completion for each item, as of the first day of each month.
D. Show values for each item and accumulated values completed at the stages indicated.

1.5 SUBMITTALS

- A. Submit six (6) copies of the initial schedule within fifteen (15) days of the written Notice to Proceed or at the Preconstruction meetings.
B. Submit six (6) revised progress schedules monthly with requests for payment.
C. Submit Schedule for Shop Drawings, Product Data and Samples.
D. Include progress reports with each submittal.

1.6 REVISIONS TO SCHEDULES

- A. Indicate progress of each activity to date of submittal, and projected completion date of each activity.
B. Identify activities modified since previous submittal, major changes in scope, and other identifiable changes.
C. Provide narrative report to define problem areas, anticipated delays and impact on Schedule. Report corrective action taken, or proposed, and its effect, including the effect of changes on schedules of separate contractors.

1.7 DISTRIBUTION

- A. Distribute copies of the reviewed schedules to the job site file, subcontractors, suppliers, and other concerned parties.
B. Instruct recipients to report promptly to the Contractor, in writing, any problems anticipated by the projections shown in the schedules.

2.0 PRODUCTS

NOT USED

3.0 EXECUTION

NOT USED

END OF SECTION 01310

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SECTION 01340 - SHOP DRAWINGS, ENGINEERING DATA, AND PRODUCT DATA

1.0 GENERAL

1.1 RELATED REQUIREMENTS

- A. DIVISION 0
- B. DIVISION 1

1.2 DESCRIPTION

- A. Engineering data covering all equipment and fabricated materials to be furnished under this contract shall be submitted to the Engineer for review after the contractor verifies all applicable field measurements, quantities, dimensions, performance criteria, etc. This data shall include drawings and descriptive information in sufficient detail to show the kind, size, arrangement, and operation of component materials and devices; the external operation of connections, anchorages, and supports required, wiring diagrams; piping diagrams; controls; performance characteristics and capacities; and dimensions and clearances needed for installation and correlation with other materials and equipment. If manufacturer's standard drawings are submitted, modify and delete information, which is not applicable to the Work. The Engineer will not be required to review incomplete submittals.
- B. All submittals, regardless of origin, shall be stamped with the approval of Contractor and identified with the name and number of this contract, Contractor's name, date, and references to applicable specification paragraphs and Contract Drawings. By approving Submittals, Contractor represents that he has determined and verified all materials, field measurements and field construction criteria related thereto and that he has checked and coordinated the information within the submittal with the requirements of the Work. Each submittal shall indicate the intended use of the item in the Work. When catalog pages are submitted, applicable items shall be clearly identified. The current revision, issue number, and date shall be indicated on all drawings and other descriptive data. Submittals shall reference sheet and/or section numbers of the Contract Documents to which they relate.
- C. All deviations from the Contract Documents shall be specifically and clearly identified on each submittal and shall be tabulated in Contractor's letter of transmittal. Such submittals shall, as pertinent to the deviation, indicate essential details of all changes proposed by Contractor (including modifications to other facilities that may be a result of the deviation) and all required piping and wiring diagrams.
- D. Contractor shall accept full responsibility for the completeness of each submission, and, in the case of a resubmission, shall verify that all exceptions previously noted by Engineer have been taken into account. In the event that more than one resubmission is required because of failure of Contractor to account for exceptions previously noted, Contractor shall reimburse Owner for the charges of Engineer for review of the additional resubmission.
- E. Any need for more than one resubmission, or any other delay in obtaining Engineer's review of submittals, will not entitle Contractor to extension of the Contract Time unless delay of the Work is directly caused by a change in the Work authorized by a Change Order or by failure of Engineer to return any submittal within 28 calendar days after its receipt in the Engineer's office.
- F. Engineer's review of drawings and data submitted by Contractor will cover only general conformity to the Contract Documents. Engineer's review does not indicate a thorough review of all dimensions, quantities, and details of the material, equipment, device, or item shown. Engineer's review of submittals shall not relieve Contractor from responsibility for errors, omissions, or deviations, nor responsibility for compliance with the Contract Documents.
- G. Six (6) copies of each drawing and necessary data shall be submitted to Engineer. Engineer will not accept submittals from anyone but Contractor. Submittals shall be consecutively numbered in direct sequence of submittal and without division by subcontracts or trades. Resubmittals shall bear the number of the first submittal followed by a letter (A, B, etc.,) to indicate the sequence of the resubmittal.
- H. When the drawings and data are returned marked REJECTED or REVISE AND RESUBMIT, the corrections shall be made as required, as noted thereon, and as indicated by Engineer and corrected copies shall be resubmitted. Commence no portion of work requiring submittals until submittal has been approved by Engineer.
- I. When corrected copies are resubmitted, Contractor shall, in writing, direct specific attention to all revisions and shall list separately any revisions made other than those called for by Engineer on previous submissions. Resubmittals shall be clearly and obviously labeled as such.
- J. When the drawings and data are returned marked REVIEWED or REVIEWED AS NOTED, no additional copies need be furnished. Contractor is responsible for distributing copies to his subcontractors and material suppliers.

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2.0 PRODUCTS

NOT USED

3.0 EXECUTION

3.1 AGREEMENT IN PRODUCTION OF SUBMITTALS

- A. Contractor agrees that Shop Drawing Submittals processed by the Engineer are not Change Orders; that the purpose of Shop Drawing Submittals by the Contractor is to demonstrate to the Engineer that the Contractor understands the design concept, that he demonstrates his understanding by indicating which equipment and material he intends to furnish and install and by detailing the fabrication and installation methods he intends to use.

Contractor further agrees that if deviations, discrepancies, or conflicts between Shop Drawing Submittals and the contract documents in the form of design drawings and specifications are discovered either prior to or after Shop Drawing Submittals are processed by the Engineer, the design drawings and specifications shall control and shall be followed.

END OF SECTION 01340

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SECTION 01400 - QUALITY CONTROL

1.0 GENERAL

1.1 QUALITY CONTROL, GENERAL

- A. Comply with industry standards except when more restrictive tolerances or specified requirements indicate more rigid standards or more precise workmanship on this project.
- B. Perform work only by persons qualified by equivalent applicable union standards to produce workmanship of the specified quality.
- C. Comply with manufacturer's instructions in full detail, including each step in sequence. Should instructions conflict with Contract Documents, notify and request clarification from Engineer before proceeding.

1.2 SITE INVESTIGATION AND CONTROL

- A. The Contractor shall verify all dimensions in the field and shall check field conditions continuously during construction. The Contractor shall be solely responsible for any inaccuracies built into the Work due to his failure to comply with this requirement.
- B. The Contractor shall inspect related, adjacent, and appurtenant Work and shall report in writing to the Engineer any conditions which will prevent proper completion of the Work. Failure to report any such conditions shall constitute acceptance of all site conditions, and any required removal, repair or replacement caused by unsuitable conditions shall be performed by the Contractor at its sole cost and expense.

1.3 INSPECTION OF THE WORK

- A. The Work shall be conducted under the general observation of the Engineer and shall be subject to inspection by representatives of the Engineer acting on behalf of the Owner to insure strict compliance with the requirements of the Contract Documents. The Engineer shall be permitted access to all parts of the Work, including plants where materials or equipment are manufactured or fabricated.
- B. The presence of the Engineer or any inspector(s), however, shall not relieve the Contractor of the responsibility for the proper execution of the work in accordance with all requirements of the Contract Documents. Compliance is a duty of the Contractor, and said duty shall not be avoided by any act or omission on the part of the Engineer or any inspector(s).
- C. All materials and articles furnished by the Contractor shall be subject to rigid inspection, and no materials or articles shall be used in the Work until they have been inspected and accepted by the Owner or his representative. No Work shall be backfilled, buried, cast in concrete, hidden or otherwise covered until it has been inspected. Any Work so covered in the absence of inspector shall be subject to uncovering. Where uninspected work cannot be uncovered, such as in concrete cast over reinforcing steel, all such Work shall be subject to demolition, removal and reconstruction under proper inspection, and no additional payment will be allowed therefore.

1.4 TIME OF INSPECTIONS

- A. Whenever the Contractor is ready to backfill, bury, cast in concrete, hide or otherwise cover any Work under the Contract, the Engineer shall be notified not less than 24 hours in advance to request inspection before beginning any such Work of covering. Failure of the Contractor to notify the Engineer at least 24 hours in advance of any such inspections shall be reasonable cause for the Engineer to order a sufficient delay in the Contractor's schedule to allow time for such inspections and any remedial or corrective Work required, and all costs of such delays, including its effect upon other portions of the Work, shall be borne by the Contractor. Payment for items which are built uninspected or unverified may be delayed by the Engineer until satisfactory evidence of compliance is attained.

1.5 SAMPLING AND TESTING

- A. When not otherwise specified, all sampling and testing shall be in accordance with methods prescribed in the current standards of the ASTM or related standard entity, as applicable to the class and nature of the article or materials considered; however, the Owner reserves the right to use any generally-accepted system of inspection which, in the opinion of the Engineer, will insure the Owner that the quality of the workmanship is in full accordance with the Contract Documents.
- B. Any waiver of any specific testing or other quality assurance measures, whether or not such waiver is accompanied by a guarantee of substantial performance as a relief from the specified testing or other quality assurance requirements as originally specified, and whether or not such guarantee is accompanied by a performance bond to assure execution of any necessary corrective or remedial Work, shall not be construed as a waiver of any technical or qualitative requirements of the Contract Documents.

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- C. Notwithstanding the existence of such waiver, the Engineer shall reserve the right to make independent investigations and tests as specified in the following paragraph and, upon failure of any portion of the Work to meet any of the quantitative requirements of the Contract Documents, shall be reasonable cause for the Engineer to require the removal or correction and reconstruction of any such Work.
- D. In addition to any other inspection or quality assurance provisions that may be specified, the Engineer shall have the right to independently select, test and analyze, at the expense of the Owner, additional test specimens of any or all of the materials to be used. Results of such tests and analyses shall be considered along with the tests and analyses made by the Contractor to determine compliance with the applicable specifications for materials so tested or analyzed; provided that wherever any portion of the Work is discovered, as a result of such independent inspection and investigation, and all costs of removal, correction and reconstruction, or repair of any such Work shall be borne by the Contractor.

1.6 RIGHT OF REJECTION

- A. The Engineer, acting for the Owner, shall have the right, at all times and places, to reject any articles or materials to be furnished herein which, in any respect, fail to meet the requirements of the Contract Documents, regardless of whether the defects in such articles or materials are detected at the point of manufacture or after completion of the Work at the site. If the Engineer or inspector, through an oversight or otherwise, has accepted materials or Work which is defective or which is contrary to the Contract Documents, such material, no matter in what stage or condition of manufacture, delivery or erection, may be rejected by the Engineer or the Owner.
- B. The Contractor shall promptly remove rejected articles or material from the site of the Work after notification of rejection.
- C. All costs of removal and replacement of rejected articles or materials from the site of the Work after notification of rejection shall be borne by the Contractor.

2.0 PRODUCTS

NOT USED

3.0 EXECUTION

NOT USED

END OF SECTION 01400

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SECTION 01505 - MOBILIZATION AND DEMOBILIZATION

1.0 GENERAL

1.1 SCOPE

- A. The Work shall consist of the preparatory and closeout work of the Contractor's forces and equipment necessary for performing the Work required under the Agreement.
- B. It shall include the purchase of contract bonds, insurance, transportation of personnel, equipment, operating supplies, and incidentals to and from the site, establishment and removal of temporary offices, buildings, temporary utilities barricades and enclosures, project signs, security and other necessary facilities at the site; and other preconstruction expenses necessary for the start and closeout of work, excluding the cost of materials.
- C. It shall not include mobilization and demobilization for any specific item of work for which payment for mobilization is provided elsewhere in the Agreement.
- D. This specification covers mobilization and demobilization for work required by the Agreement at the time of award. If additional mobilization costs are incurred during performance of the Agreement as a result of changed or added items of work for which the Contractor is entitled to an adjustment in contract price, compensation for such costs will be included in the price adjustment for the items of work changed or added.

1.2 MEASUREMENT

Measurement of the item of Mobilization will be on a unit basis for the project. The amount of payment to be made shall be based on the percent complete and amount of the entire contract. A percentage of the lump sum amount bid for mobilization will be payable in accordance with the following schedule:

<u>Pay Period</u>	<u>Payment For Mobilization (Pay Whichever is Less)</u>	
<u>Percent of Original Contract Amount Earned</u>	<u>Total Percentage of Lump Sum Amount Bid For Mobilization</u>	<u>Total Percentage of Original Contract Amount</u>
On First Estimate	20%	2%
5%	70%	4%
50%	100%	6%
On Final Estimate	Any Remaining Balance of Lump Sum Amount Bid for Mobilization	

* Excluding any payment previously made for the item of Mobilization

** Including any payment previously made for the item of Mobilization

The total sum of all payments shall not exceed the original contract amount bid for the item of Mobilization, regardless of the fact that the Contractor may have, for any reason, shut down his work on the project or moved equipment away from the project and then back again.

1.3 PAYMENT

- A. Payment shall be in accordance with these Specifications.

2.0 PRODUCTS

NOT USED

3.0 EXECUTION

NOT USED

END OF SECTION 01505

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**SECTION 01530 - BARRIERS AND ENCLOSURES
(TEMPORARY)**

1.0 GENERAL

1.1 RELATED WORK

- A. Furnish, install and maintain suitable barriers as required to maintain security to prevent public entry and to protect the Work and existing facilities from construction operations. Remove the barriers when no longer needed, or at completion of Work.

1.2 REQUIREMENTS OF REGULATORY AGENCIES

- A. Comply with federal, state and local codes and regulations.
B. The provision by the Contractor of warning signs, warning lights, barricades and watchmen is subject to the requirements of "Safety and Health Regulations for Construction," of the Occupational Safety and Health Administration, U.S. Government Department of Labor, of the State "Manual on Uniform Traffic Control Devices for Streets and Highways," and of other authorities having jurisdiction in the areas of safety and traffic control. The Contractor is solely responsible for satisfying the safety and traffic control requirements of authorities concerned with or affected by this work.

1.3 BARRICADES AND LIGHTS

- A. All streets, roads, driveways and other thoroughfares which are closed to traffic shall be protected by effective barricades on which shall be placed acceptable warning signs. Barricades shall be located at the nearest intersection on each side of the blocked section.
B. All open trenches and other excavations shall have suitable barricades, signs and lights to provide adequate protection to the public. Obstructions such as material piles and equipment shall be provided with similar warning signs and lights.
C. All barricades and obstructions shall be illuminated with warning lights from sunset to sunrise. Material storage and conduct of the Work on or alongside streets and driveways shall cause the minimum obstruction and inconvenience to the traveling public as possible.
D. All barricades, lights and other protective devices shall be installed and maintained in conformity with the "Manual on Uniform Traffic Control Devices", latest revision.

1.4 FENCES

- A. All existing fences affected by the Work shall be maintained by Contractor until completion of the Work. Fences which interfere with construction operations shall not be relocated or dismantled until written permission is obtained from the owner of the fence, and the period the fence may be left relocated and dismantled has been agreed upon. Where fences must be maintained across the construction easement, adequate gates shall be installed. Gates shall be kept closed and locked at all times when not in use. Fences or gates which have been disturbed or which have been opened must be closed when directed by the Owner or Engineer within 12 hours of any such direction. If the Contractor fails to comply with any of this type of direction the Owner shall retain the right to remedy any fence removal with other forces and deduct monies spent from monies due the Contractor.
B. Upon completion of the Work, Contractor shall restore all fences to their original or to a better condition and to their original location as needed at no direct cost to the project.

1.5 MEASUREMENT

Measurement for Temporary Barricades and Enclosures shall be per each.

1.6 PAYMENT

There shall be no direct payment for Temporary Barricades and Enclosures, which also includes fences.

2.0 PRODUCTS

2.1 GENERAL

- A. Materials may be new or used suitable for the intended purpose, but must not violate requirements of applicable codes and standards.

3.0 EXECUTION

NOT USED

END OF SECTION 01530

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SECTION 01540 - SECURITY

1.0 GENERAL

1.1 RELATED WORK
NOT USED

1.2 PROTECTION OF WORK

- A. Contractor shall be responsible for protection of the site, and all work, materials, equipment and existing facilities thereon, against theft, vandals, and other unauthorized persons.
- B. No claim shall be made against Owner by reason of any act of an employee or trespasser, and Contractor shall make good all damage to Owner's property resulting from his failure to provide security measures as specified.
- C. Security measures shall be at least equal to those usually provided to protect the existing facilities during normal operation, but shall also include such additional security fencing, barricades, lighting, watchman services and other measures as required to protect the site.
- D. Maintain security of the limited access areas as required by the Owner.
- E. The work shall be under the charge and care of the Contractor until final acceptance. The Contractor shall take precautions against damages to the work by action of the elements or from other cause, and shall satisfactorily repair any damaged work at his expense. In case of suspension of work, the Contractor shall be responsible for all materials and shall properly store them if necessary, and shall erect temporary structures where necessary.

1.3 PROTECTION OF PUBLIC AND PRIVATE PROPERTY

- A. Contractor shall protect, shore, brace, support and maintain all above ground and underground pipes, conduits, drains and infrastructure items uncovered or otherwise affected by his construction operations. All pavement, surfacing, driveways, curbs, walks, buildings, utility poles, guy wires, fences and other surface structures affected by construction operations, together with all sod and shrubs in yards and parking, shall be restored to their original conditions, whether within or outside the easement.
- B. All replacements shall be made with new materials. No trees shall be removed outside of the permanent easement, except where authorized by Engineer. Whenever practicable, Contractor shall tunnel beneath trees in yards and parking areas when on or near the line of trench. Hand excavation shall be employed as necessary to prevent injury to trees. Trees standing shall be adequately protected against damage by construction operations.
- C. Contractor shall be responsible for all damage to streets, roads, highways, shoulders, ditches, embankments, culverts, bridges and any other public or private property, regardless of location or character, which may be caused by transporting equipment, materials or men to or from the Work or any part of site thereof, whether by him or his Subcontractors. Contractor shall make satisfactory and acceptable arrangements with the owner of, or the agency or authority having jurisdiction over, the damaged property concerning its repair or replacement or payment of costs incurred in connection with the damage.
- D. All fire hydrants, water control valves, and other facilities of public use shall be kept free from obstruction and available for use at all times. Fire hydrants to be removed and relocated shall be done as quickly as possible.

1.4 MEASUREMENT

There shall be no measurement for Security.

1.5 PAYMENT

There shall be no payment for Security.

2.0 PRODUCTS

NOT USED

3.0 EXECUTION

3.1 PERFORMANCE OF SECURITY MEASURES

- A. If the Contractor fails to comply with the provisions of this section, the Engineer will immediately notify the Contractor, in writing, of such noncompliance. If the Contractor fails to remedy unsatisfactory maintenance within 48 hours after receipt of such notices, the Engineer may immediately proceed to maintain the project, and the cost of this maintenance will be deducted from payments for the work.
- B. If the unsatisfactory maintenance results in a condition that is hazardous to life, health or property, the Engineer will immediately effect necessary repairs and deduct the cost of such repairs from payments for the work.

END OF SECTION 01540

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SECTION 01560 - TEMPORARY CONTROLS

1.0 GENERAL

1.1 RELATED SECTIONS

- A. Section 01015 – Miscellaneous Requirements

1.2 CONSTRUCTION CLEANING

- A. As required by the General Conditions and herein, Contractor shall keep the premises free at all times from accumulations of waste materials and rubbish. Contractor shall provide adequate trash receptacles about the site, and shall promptly empty the containers when filled.
- B. Construction materials, such as concrete forms and scaffolding shall be neatly stacked by Contractor when not in use. Contractor shall promptly remove splattered concrete, asphalt, oil, paint, corrosive liquids and cleaning solutions from surfaces to prevent marring or other damage.
- C. Volatile wastes shall be properly stored in covered metal containers and removed daily.
- D. Wastes shall not be buried or burned on the site or disposed of into storm drains, sanitary sewers, streams, or waterways. All wastes shall be removed from the site and disposed of in a manner complying with local ordinances and antipollution laws.
- E. Adequate cleanup will be a condition for recommendation of progress payment applications.

1.3 DUST CONTROL

- A. Contractor shall take reasonable measures to prevent or minimize unnecessary air-borne dust. Earth surfaces subject to dusting shall be kept moist with water or by application of a chemical dust suppressant. Dusty materials in piles or in transit shall be covered to prevent blowing.
- B. Buildings or operating facilities which may be affected adversely by dust shall be adequately protected from dust.

1.4 EROSION CONTROL

- A. Contractor shall prevent erosion of soil on the site and adjacent property resulting from his construction activities. Effective measures shall be initiated prior to the commencement of clearing, grading, excavation or other operations that will disturb the natural protection.
- B. Work shall be scheduled to expose areas subject to erosion for the shortest possible time, and natural vegetation preserved to the greatest extent practicable to minimize amount of bare soil exposed at one time. Temporary storage and construction buildings shall be located, and construction traffic routed, to minimize erosion. Temporary fast growing vegetation or other suitable ground cover shall be provided as necessary to control runoff.

1.5 FLOOD PROTECTION AND DRAINAGE FLOW REQUIREMENTS

- A. Contractor shall not be allowed to impede drainage during rainstorms or when a storm is imminent.
- B. Contractor may construct temporary dams to permit dewatering for construction. Contractor shall submit to the Engineer the location and elevations of any temporary dams he proposes to erect and receive the Engineer's approval prior to placing such temporary dams.
- C. However, upon orders at any time from the Engineer, or the County/City Engineer, these dams must be removed within one (1) hour of notification to permit storm water through the construction area. The Contractor may provide a suitable by-pass around the temporary dam which by-pass shall require prior approval of the Engineer and the County/City Engineer.
- D. Contractor shall file with the Engineer and the County/City Engineer the names and the phone numbers of personnel who are available on a 24 hour basis for removing these dams and any impediment to drainage within the construction area.
- E. Contractor shall also be responsible for keeping all existing drain lines from drainage systems flowing at all times.

1.6 NOISE CONTROL

- A. Contractor shall take reasonable measures to avoid unnecessary noise. Such measures shall be appropriate for the normal ambient sound levels in the area during working hours. All construction machinery and vehicles shall be equipped with practical sound muffling devices, and operated in a manner to cause the least noise consistent with efficient performance of the Work.
- B. During construction activities on or adjacent to occupied buildings, and when appropriate, Contractor shall erect screens or barriers effective in reducing noise in the building; and shall conduct his operations to avoid unnecessary noise which might interfere with the activities of building occupants.

1.7 POLLUTION CONTROL

- A. Contractor shall prevent the pollution of drains and watercourses by sanitary wastes, sediment, debris and other substances resulting from construction activities. No sanitary wastes will be permitted to enter any drain of watercourse other than sanitary sewers.
- B. No sediment, debris or other substance will be permitted to enter sanitary sewers and reasonable measures will be taken to prevent such materials from entering any drain or watercourse.

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1.8 SURFACE WATER CONTROL

- A. The facilities to be constructed are located in an area which may be subject to heavy rainfall and flooding. During the construction period, Contractor shall provide temporary protection as necessary to prevent flood damage to new and existing facilities and shall be responsible for any damage which may result from flooding.
- B. Contractor shall provide for the drainage of stormwater and such water as may be applied or discharged on the site in performance of the Work. Drainage facilities (and pumping operations as necessary) shall be adequate to prevent damage to the Work, the site and adjacent property. Drains shall not be blocked by any of the Contractor's activities as flooding may be caused by any impedance to existing storm water flow.
- C. Existing drainage channels and conduits shall be cleaned, enlarged or supplemented as necessary to carry all increased runoff attributable to Contractor's operations. Dikes shall be constructed as necessary to divert increased runoff from entering adjacent property (except in natural channels), to protect Owner's facilities and the Work, and to direct water to drainage channels or conduits. Ponding shall be provided as necessary to prevent downstream flooding. The Contractor must obtain permission from the Owner before beginning any of the above mentioned work.

1.9 DEBRIS CONTROL

- A. Remove debris, empty crates, waste, etc. from building and site at the end of each day's work and leave grounds clean and orderly. Keep driveways, entrances and walks clean and clear at all times.

1.10 TRAFFIC CONTROL

- A. The Contractor shall provide flagmen when work is in progress along or across existing roadways.

1.11 MEASUREMENT

- A. There shall be no measurement for Temporary Controls.

1.12 PAYMENT

- A. There shall be no direct payment for Temporary Controls.

2.0 PRODUCTS

NOT USED

3.0 EXECUTION

NOT USED

END OF SECTION 01560

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SECTION 01600 - MATERIALS AND EQUIPMENT

1.0 GENERAL

1.1 RELATED SECTIONS

- A. Section 01620 - Storage and Protection

1.2 DESCRIPTION

- A. Material and equipment incorporated into the Work:
1. Conform to applicable specifications and standards.
 2. Comply with size, make, type and quality specified or as specifically approved in writing by the Engineer.
 3. Manufactured and Fabricated Products:
 - a. Design, fabricate and assemble in accordance with the best engineering and shop practices.
 - b. Manufacture like parts of duplicate units to standard sizes and gages, to be interchangeable.
 - c. Two or more items of the same kind shall be identical, by the same manufacturer.
 - d. Products shall be suitable for service conditions.
 - e. Equipment Capacities, sizes and dimensions shown or specified shall be adhered to unless variations are specifically approved in writing.
 4. Do not use material or equipment for any purpose other than that for which it is designed or is specified.
 5. Whenever an article, device or piece of equipment specified herein (or as indicated on the Drawings) is referred to in the singular number, such reference shall apply to as many such articles as are indicated on the Drawings or required to complete the installation within the general intent of the Contract Documents.
- B. Contractor shall be fully responsible for all materials and equipment which he has furnished, and shall furnish necessary replacements at any time prior to expiration of the Correction Period.
- C. Off-site storage arrangements shall be acceptable to Owner for all materials and equipment not incorporated into the work but included in Applications for Payment. Such off-site storage arrangements shall be presented in writing, and shall afford adequate and satisfactory security and protection. Off-site storage facilities shall be accessible to Engineer.
- D. Existing materials and equipment removed, and not reused or suitable for salvage, shall become Contractor's property.
- E. Any items damaged in removal, storage or handling through carelessness or improper procedures shall be replaced by Contractor in kind or with new items.
- F. Existing materials and equipment removed by Contractor shall not be reused in the Work except where so specified or indicated.
- G. All items mentioned in these Contract Documents shall be handled in conformance with this Section, instructions in the related Sections, and manufacturer's literature.
- H. The security of Owner furnished equipment shall become the responsibility of the Contractor upon taking delivery of the items at the office of the Owner.

1.3 MANUFACTURER'S INSTRUCTIONS

- A. When Contract Documents require that installation of Work shall comply with manufacturer's printed instructions, obtain and distribute copies of such instructions to parties involved in the installation, including two copies to Engineer.
1. Maintain one set of complete instructions at the job site during installation and until Project completion.
- B. Handle, install, connect, clean, condition and adjust products in strict accordance with such instructions and in conformity with specified requirements.
1. Should job conditions or specified requirements conflict with manufacturer's instructions, consult with Engineer for further instructions.
 2. Do not proceed with such Work without clear instructions.
- C. Perform Work in accordance with manufacturer's instructions. Do not omit any preparatory step or installation procedure unless specifically modified or exempted by Contract Documents.

1.4 TRANSPORTATION AND HANDLING

- A. Arrange deliveries of products in accordance with construction schedules, coordinate to avoid conflicts and delays with Work and conditions at the site.
- B. Deliver products in undamaged condition, in manufacturer's original containers or packaging with identifying labels intact and legible. Labels shall indicate manufacturer and product name, description, mixing and application instructions, limitations, cautions and warnings.

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- C. Immediately upon delivery, inspect shipments to ensure proper material, color, type, quantities, and to assure compliance with the Contract Documents and approved submittals and that the products are undamaged.
- D. Provide equipment and personnel to handle products by methods to prevent soiling or damage to the product or packaging.

1.5 PROTECTION AFTER INSTALLATION

- A. Provide substantial coverings as necessary to protect installed products from damage from traffic and subsequent construction operations. Remove coverings when no longer needed.

2.0 PRODUCTS

2.1 EVIDENCE OF COMPLIANCE

- A. All material and equipment used in the completion of this work shall be accompanied by certificates of compliance with the applicable requirements of the specifications. These certificates shall state date of manufacture, manufacturer, local representative, component sources and other pertinent specified facts of manufacture.

3.0 EXECUTION

NOT USED

END OF SECTION 01600

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SECTION 01620 - STORAGE AND PROTECTION

1.0 GENERAL

1.1 RELATED SECTIONS

NOT USED

1.2 DESCRIPTION

- A. All materials shall be suitably packaged (in manufacturer's original packaging with labels and seals intact) to facilitate handling and protect against damage during storage.
- B. Painted or coated surfaces shall be protected against impact, abrasion, discoloration, and other damage. All painted or coated surfaces which are damaged prior to acceptance of equipment shall be repaired to the satisfaction of the Engineer. If the Engineer deems the damage to be too extensive for repair, the material will be rejected and disposed of by the Contractor at No Direct Pay.
- C. Each item, package, or bundle of material shall be tagged or marked as identified in the delivery schedule or on the Shop Drawings. Complete packing lists and bills of material shall accompany each shipment.
- D. Storage shall be performed with public and employee safety considered.

1.3 MEASUREMENT

There shall be no measurement for storage and protection.

1.4 PAYMENT

There shall be no payment for storage and protection.

2.0 PRODUCTS

NOT USED

3.0 EXECUTION

3.1 STORAGE, GENERAL

- A. Store products, immediately on delivery, in accordance with manufacturer's instructions. Protect until installed.
- B. Arrange storage in a manner to provide access for maintenance of stored items and for inspection.
- C. Store and handle paints and products subject to spillage in areas where spills will not deface surfaces.
- D. Flammable or hazardous materials
 - 1. Store minimum quantities in protected areas.
 - 2. Provide appropriate type fire extinguishers near storage areas.
 - 3. Observe manufacturer's precautions and applicable ordinances and regulations.
- E. Arrange loose bundles so as to prevent damage to the product or the storage area.
- F. Store materials in a neat and orderly manner.
- G. The Contractor shall not use private property for storage without written permission from the property owner.

3.2 EXTERIOR STORAGE

- A. Provide substantial platforms, blocking, or skids, to support fabricated products above ground; slope to provide drainage. Protect products from soiling and staining.
- B. For products subject to discoloration or deterioration from exposure to the elements, cover with impervious sheet material. Provide ventilation to avoid condensation.
- C. Store loose granular materials on clean, solid surfaces such as pavement, or on rigid sheet materials, to prevent mixing with foreign matter.
- D. Provide surface drainage to prevent erosion, pollution by mixing and ponding of water.
- E. Prevent mixing of refuse or chemically injurious materials or liquids.

3.3 OFF-SITE STORAGE

- A. Off-site storage arrangements for Contractor-furnished equipment and materials shall be acceptable to Owner for all materials and equipment not incorporated into to the work but included in Applications for Payment. Such off-site storage arrangements shall be presented in writing and shall afford adequate and satisfactory security and protection. Off-site storage facilities shall be accessible to Engineer.

3.4 MAINTENANCE OF STORAGE

- A. Periodically inspect stored products on a scheduled basis.
- B. Verify that storage facilities comply with manufacturer's product storage requirements.
- C. Verify that manufacturer's required environmental conditions are maintained continually.
- D. Verify that surfaces of products exposed to the elements are not adversely affected; that any weathering of finishes is acceptable under requirements of Contract Documents.

END OF SECTION 01620

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SECTION 01630 - PRODUCT OPTIONS AND SUBSTITUTIONS

1.0 GENERAL

1.1 RELATED WORK

- A. DIVISION 0
- B. Section 01340 -- Shop Drawings, Product Data, and Samples

1.2 DESCRIPTION

- A. These Contract Documents include provisions for use of equivalent materials and equipment. Requests for review of equivalency shall be submitted in accordance with the General Requirements and the Miscellaneous Requirements and as herein specified.

1.3 SUBSTITUTIONS OF MATERIALS OR EQUIPMENT

- A. Whenever, in the plans or project specifications, any materials, process or equipment is specified by patent, proprietary or brand name, or name of manufacturer, such wording is intended to establish the quality and type of materials, processes and equipment, and shall be deemed to be followed by the words "or approved equal". Lists of acceptable materials in the plans or specifications are not intended to be comprehensive lists, or in order of preference. The Contractor may offer any material, process or equipment which meets specifications.
- B. Requests for substitution of equal products for those specified shall be submitted for approval to the Engineer as soon as possible after the award of contract and before installation.
- C. Manufactured products shall be installed in accordance with the manufacturer's recommendations. Products, when delivered to the site, shall be labeled as to the manufacturer's name and catalog number; also, products shall have manufacturer's certification that the product conforms to specifications.
- D. If required by the Engineer, the Contractor, at his expense, shall have the proposed material tested as to its physical and chemical characteristics, durability, finish efficiency, dimensions, and suitability for its intended use. The method of test shall be subject to approval, and test results shall be reported promptly to the Engineer. Material shall not be installed until approved.
- E. No additional payment will be made for revisions in the project made necessary by the substituted equipment, materials or product, and no extension of contract time will be granted because of the use of substituted materials, processes or equipment.

2.0 PRODUCTS

NOT USED

3.0 EXECUTION

3.1 PROCEDURE

- A. Submit a separate request for each product, supported with complete data, drawings and samples as appropriate including changes required in other elements of the Work because of the substitution, effect on construction schedule, cost data comparing the proposed substitution with the specified products, comparison if availability of maintenance, service and replacement cost.
 - 1. Any supporting test data or results shall use the same test procedures for the proposed substitution and the specified products to facilitate comparison.
- B. Request for substitution constitutes a representation that the Contractor:
 - 1. Has investigated the proposed product and determined that it is equal to or superior in all respects to that specified.
 - 2. Will provide the same or better warranties, bonds and guarantees for the substitution as for the specified product.
 - 3. Will coordinate the installation of an accepted substitution into the Work and make the Work complete in all respects.
 - 4. Waives all claims for additional costs, related to the substitution which may subsequently become apparent.

END OF SECTION 01630

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SECTION 01700 - CONTRACT CLOSEOUT

1.0 GENERAL

1.1 REQUIREMENTS INCLUDED

- A. Comply with requirements stated in the Standard General Conditions of the Construction Contract for administrative procedures in closing out the Work.

1.2 RELATED SECTIONS

- A. Standard General Conditions of the Construction Contract. Fiscal provisions, legal submittals and additional administrative requirements.
B. Section 01010 - Summary of Work

1.3 CLEANING

- A. Before final acceptance, the Contractor shall remove from the site and adjacent property all surplus materials, weeds, bushes, rubbish and temporary structures, trailers, tools, equipment, supplies, and unused or waste materials; shall satisfactorily restore by grading, raking, smoothing, and other necessary operations all property which has been worn, rutted or damaged during the work, and shall leave the site in a presentable condition. Upon completion of work in connection with drainage structures, the Contractor shall remove all obstructions to the flow of water from inside all structures, channels, and culverts whether new or old. No direct payment will be made for this work.
B. Remove all waste and surplus material from site.
C. Roads, fences, and other facilities damaged or deteriorated because of Contractor's operations shall be repaired.
D. Contractor shall be responsible for and will clean up at his own expense any streets or roadways which have debris, mud, stone, etc., as a result of construction on this project.

1.4 FINAL INSPECTION

- A. When Contractor considers the Work is complete, he shall submit written notification that (3 copies):
1. Contract Documents have been reviewed.
2. Work has been inspected for compliance with Contract Documents.
3. Work has been completed in accordance with Contract Documents.
4. Equipment and systems have been tested in the presence of an Owner's representative and are operational.
5. Work is completed and ready for final inspection.
B. Engineer will make an inspection to verify the status of completion with reasonable promptness after receipt of such notification. The inspection shall include the Engineer, Owner's Representative, Contractor and Using Agency official.
C. Should Engineer consider that the Work is incomplete or defective:
1. Engineer will promptly notify the Contractor in writing, listing the incomplete or defective work.
2. Contractor shall take immediate steps to remedy the stated deficiencies and send a second written notification to Engineer stating that the Work is complete.
3. Engineer will reinspect the Work.
D. When the Engineer finds that the Work is acceptable under the Contract Documents, he shall request the Contractor to make closeout submittals, including Application for Final Payment.

1.5 CONTRACTOR'S CLOSEOUT SUBMITTALS TO ENGINEER

- A. Project Record Documents.
B. Warranties, Guarantees and Bonds. All warranty periods shall begin on the date of Final Acceptance.
C. Operations & Maintenance Manuals and Data, 3 copies each, bound in labeled stiff back ring binders. Include for all equipment and controls.
D. Executed Service Contracts.
E. Spare parts and Maintenance Materials.
F. Reports of all required tests and demonstrations.
G. Keys to all locks and locksets.
H. Evidence of Payment and Release of Liens: In accordance with requirements of Standard General and Supplementary Conditions.

1.6 FINAL ADJUSTMENT OF ACCOUNTS

- A. Submit a final statement of accounting to the Engineer.
B. Statement shall reflect all adjustments to the Contract Sum:
1. The original Contract Sum.
2. Additions and deductions resulting from:
a. Previous Change Orders.

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- b. Quantity reconciliations.
- c. Penalties and Bonuses.
- d. Deductions for liquidated damages.
- e. Deductions for reinspection payments.
- f. Deductions for overtime inspection payments.
- g. Other adjustments.
- 3. Total Contract Sum, as adjusted.
- 4. Previous payments.
- 5. Sum remaining due.
- C. Engineer will prepare a final Change Order, reflecting approved adjustments to the Contract Sum which were not previously made by Change Orders.

1.7 FINAL APPLICATION FOR PAYMENT

- A. Contractor shall submit the final Application for Payment in accordance with procedures and requirements stated in the Standard General Conditions of the Construction Contract.

1.8 SUPPLEMENTAL LIQUIDATED DAMAGES

- A. After the establishment of a date of Substantial Completion, the Contractor shall have 30 days to complete any outstanding items of Work remaining to be completed or corrected as listed on a final punch list made a part of the Substantial Completion Package. If upon expiration of said 30 days the outstanding items of Work have not been completed, liquidated damages in the amount agreed to in this contract will be reinstated for every day in which the outstanding items of Work have not been completed. Furthermore, the Owner shall not release monies withheld until all outstanding items of Work have been completed.

2.0 PRODUCTS

NOT USED

3.0 EXECUTION

NOT USED

END OF SECTION 01700

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SECTION 02072 - SELECTIVE DEMOLITION

1.0 GENERAL

1.1 SCOPE

- A. Contractor shall demolish all work as shown on Drawings to be demolished and work which must be removed to facilitate the new construction.
- B. Contractor shall remove all demolition and other matter and/or equipment from site under this Contract, as directed by Owner. The Contractor shall assume ownership of all items to be demolished, unless noted otherwise by these specifications.
- C. Any material salvaged by the Contractor shall become the property of the Contractor unless designated otherwise by the Engineer. The Owner shall not be responsible for security of salvaged materials temporarily stored on the site. Any material salvaged by the Owner shall be removed by and stored, at a location designated by the Engineer, by the Contractor.
- D. All areas that have been disturbed by demolition and/or all other areas to receive construction and/or all other areas generally being part of this Contract shall be ready to receive new work and/or finish in a first class manner.
- E. Contractor shall inspect the site, note all conditions, and include all work of every character necessary to comply with the requirements of this Section and the Drawings.
- F. All demolished and excavated materials, trash, construction debris, etc., shall be completely removed as it accumulates, and at the completion of the Work before final acceptance.

1.2 GENERAL REQUIREMENTS

- A. Contractor shall take care so as not to unnecessarily disturb all other areas and/or adjoining areas.
- B. Dust, debris, etc., shall be totally isolated from normal function of building. Extreme care must be taken to ensure this.
- C. All necessary barricades, signs, fences shall be constructed to afford total protection by users.

1.3 RELATED WORK

- A. Contractor shall take care in excavation of existing earth to run new pipelines and/or connect to existing pipelines that all structural members above or below grade shall be preserved. Contractor shall notify Engineer when cutting through grade beams, piling and/or other structural members, etc., in order that Engineer be able to advise contractor in re-developing of same. Re-developing of same shall mean if grade beam or any other member is disturbed it shall be disturbed in the least manner in order to complete construction in an area and preserved to its original conditions. Contractor shall consult Engineer during bidding if there are any questions or during construction if there are any questions concerning this matter.
- B. Utilities: Before any Work is begun, existing utilities shall be located and carefully preserved throughout construction.
- C. Risk: The Contractor shall accept the site as he finds it and shall inform himself of its character. Damage or loss shall be at the risk of the Contractor from the time he starts construction until the completed project is finally accepted. Damages and/or losses shall not relieve the Contractor from any obligations under this Contract.

1.4 MEASUREMENT

- A. No measurement will be made for selective demolition.

1.5 PAYMENT

- A. This contract does not contain an item for selective demolition as described in this section. Any required selective demolition will be at no direct pay and included in the lump sum price for site preparation.

2.0 PRODUCTS

NOT USED

3.0 EXECUTION

3.1 DEMOLITION AND REMOVAL

- A. Provide adequate protection to persons and property. Execute all work in such a manner as to avoid interference with the use, or passage and from adjacent facilities.
- B. Disposal of debris by burning and demolition by explosives shall be allowed by regulatory permit only.
- C. Disposal of trash, debris, etc., shall be in accordance with the requirements of the governing body having jurisdiction.
- D. Demolition by dropping of heavy weights is prohibited.

3.2 EXISTING WORK TO REMAIN

- A. Contractor shall note the existing work to remain, and employ demolition methods that will not cause damage to same.

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- B. Contractor shall examine existing work and determine what items need shoring, etc., during demolition and/or rebuilding phases. Such shoring, guy, etc., shall be furnished as required and included in the Contractor's bid.
- C. The design of shoring, etc., shall be the responsibility of the Contractor.
- D. Existing work shown to remain in place that has been damaged by demolition activity shall, at the discretion of the Engineer, be removed from the site and rebuilt new or repaired to his satisfaction.
- E. Permission to repair does not waive the Engineers right to require removal and replacement, if in his opinion the repair has not restored the original appearance and strength of the item.
- F. Regarding removal and replacement and/or repairs as mentioned in this Section, the Engineer's decision is final.
- G. Cost of removal and replacement and/or repairs shall be borne by the Contractor.

END OF SECTION 02072

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SECTION 02100 - SITE PREPARATION

1.0 GENERAL

1.1 SCOPE

- A. This work consists of required clearing, grubbing, removing and disposing of vegetation, trees, and debris within the limits of the project areas, except such objects that are designated to remain or to be removed in accordance with other sections of the specifications.

1.2 RELATED SECTIONS

- A. DIVISION 2 - SITEWORK
B. Section 02120 - Structure Removing
C. Section 02276 - Slope Protection

1.3 REGULATORY REQUIREMENTS

- A. Conform to all applicable City, County, State and Federal laws, ordinances, regulations, rules and codes for disposal of debris, grubbed trees, shrubs, stumps and trash off-site.
B. Coordinate clearing work with utility companies.

1.4 MEASUREMENT

- A. There is no measurement for site preparation.

1.5 PAYMENT

- A. There is no separate payment for site preparation.

2.0 PRODUCTS

NOT USED

3.0 EXECUTION

3.1 PREPARATION

- A. The Contractor shall stake or otherwise verify the limits of clearing and review the clearing limits in the field with the Construction Manager before work begins. The Contractor shall be responsible to properly locate and verify, by licensed surveyor, the property lines, right-of-ways and other features that are part of the limits of clearing as shown on the plans. All survey work and staking shall be done at the Contractor's expense. Verify that existing plant life and features designated to remain are tagged or identified.
B. Before clearing or grubbing operations begin, the Contractor shall install temporary and permanent erosion and sediment control measures.

3.2 PROTECTION

- A. The Contractor shall provide temporary fences, silt fences, barricades, coverings, or other protections necessary to prevent damage to existing items indicated to remain and to prevent injury or damage to persons or property. There shall be no direct payment for protection.
B. The Contractor shall protect utilities that remain from damage. The Contractor shall use caution around all existing utilities so as not to cause damage or destruction. The Contractor shall be responsible for any damage caused by his work.
C. Trees not on the line of construction or trees which in the opinion of the Engineer can be avoided by minor adjustments in the field, shall be protected from damage by the Contractor during construction as follows:
1. The Contractor shall install a protective barrier around trees to remain. The barrier shall be maintained until completion of the project at which time it shall be removed and disposed of by the Contractor.
2. The barrier shall be at least three feet high and be placed at least six feet away from the base of any tree to remain. Fifty percent of the area under the drip line shall be included within the temporary barrier.
3. The barrier shall consist of a wood fence with 2" x 4" posts spaced at eight feet on center with a 2" x 4" toe rail. A wire mesh fabric or other similar barrier meeting local and state laws or ordinances shall be attached to the wood frame.
4. The Contractor shall not disturb the ground within six feet of the base of trees located outside of the clearing limits and meeting the diameter requirements (for trees to remain) shown on the plans or as directed by the Engineer.
5. No materials, trailers, equipment, or chemicals shall be stored within the protective area for trees.
D. The Contractor shall protect bench marks, property markers, fences, pavements and existing structures from damage or displacement.
E. The Contractor shall restore damaged work to its original condition at his own expense.
F. The Contractor shall not interfere with normal traffic on roads, streets, walks, and other adjacent occupied facilities.

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3.3 CLEARING

- A. All areas of trees and vegetation over one inch in diameter, as measured six inches above grade, within the limits of the clearing work shall be cleared and grubbed.
- B. Clearing shall consist of cutting, removing and clearing of trees, shrubs, stumps and debris from within the limits of clearing work as shown on the plans and as directed by the Engineer.
- C. Remove trees, shrubs and undergrowth within the limit of clearing areas as indicated on the plans. Remove stumps, main root ball, to a depth that will allow necessary excavation.
- D. Trees unavoidably falling outside of the specified limits shall be cut up and removed from the site.
- E. Materials from clearing may be used as temporary brush barriers for erosion and sediment control as directed by the Engineer. Brush barriers used as temporary erosion and sediment control shall be disposed of after construction or as directed by the Engineer in accordance with these specifications.

3.4 GRUBBING

- A. Grubbing shall be performed in all cleared areas of vegetation. Grubbing shall consist of excavation and removal to a depth of two feet of all existing stumps, roots, old piling, submerged logs and other perishable and objectionable materials from within the limits of clearing work. Grubbing with explosives will not be permitted.
- B. All excavations or grubbing done below the subgrade surface for the removal of stumps, roots, etc. shall be refilled with a select backfill material. The fill material shall be leveled and compacted to match the existing degree of compaction, grades and drainage patterns of the surrounding subgrade.

3.5 SITE GRADING

- A. Grading or blading need only be done where the site has been disturbed by the cleaning, clearing and grubbing operations of the Contractor. The site within the limits of work shall be left clear of vegetation (except turf grasses) and trash and bladed to a smooth surface contour generally conforming to the existing grades and drainage patterns of the original subgrade.

3.6 BURNING

- A. Burning is not permitted.

3.7 REMOVAL AND DISPOSAL

- A. The Contractor shall clean the site; remove debris, vegetation, loose concrete, trash and waste from the site and dispose of in a manner acceptable to the local governing authority and the Owner. Removed material shall not be buried on the site or deposited on adjacent lands. Trash fires shall not be permitted.
- B. The Contractor shall handle, transport and dispose of all waste materials in compliance with all federal, state and local statutes, ordinances, rules and regulations.
- C. The Contractor shall progress the site preparation work in an orderly fashion and the disposal work shall coincide with the site preparation such that the waste materials shall not accumulate and cause an unsafe condition.
- D. The Contractor shall be responsible for all disposal fees.

3.8 CLEANUP

- A. Contractor shall clear the site of all rubble and loose material after site preparation is complete and waste material has been disposed of.
- B. Contractor shall backfill all voids left as a result of the clearing and grubbing operation.
- C. Contractor shall upon completion of the Work remove from the site all materials, salvage or otherwise, and equipment to leave a clear, clean site as determined by the Construction Manager. If the site is not cleaned in a timely manner after written notification to the Contractor by the Engineer, the Owner shall have the site cleaned by another contractor and the cost shall be deducted from the Contractor's payment.

END OF SECTION 02100

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SECTION 02120 - STRUCTURE REMOVING

1.0 GENERAL

1.1 SCOPE

- A. This work consists of removal and satisfactory disposal or relocation of all existing manholes, pipe, driveways, sidewalks, disconnected utility poles, fences, culverts, pavements, buildings, building appurtenances, septic tanks, concrete slabs, piles, foundations, and other miscellaneous structures and obstructions which conflict with construction operations and are not designated to remain, or are indicated on the Contract Drawings to be removed. It shall also include the backfilling of resulting trenches, holes and pits. This item of work shall also include the removal and resetting of mailboxes, signs, etc. that may be affected during construction.
- B. This work shall also include the removal and relocation of existing traffic signs in conflict with construction operations.

1.2 RELATED SECTIONS

- A. Section 02100 - Site Preparation

1.3 MEASUREMENT

- A. No measurement will be made for structure removing, including, but not limited to, pavement and driveway cutting and fence removal and resetting.

1.4 PAYMENT

- A. This contract does not contain an item for structure removal. Specific removal of items is listed individually. Any required removal or resetting of items that aren't specifically listed will be at no direct pay. Contractor shall restore all drives and fences to their original or to a better condition and to their original location as needed.

2.0 PRODUCTS

NOT USED

3.0 EXECUTION

3.1 DEMOLITION AND REMOVAL

- A. The Contractor shall remove and dispose of all portions of existing items designated on the Contract Drawings to be removed and other obstructions within the construction servitude which interfere with construction operations.
- B. The Contractor is cautioned to keep off private property, unless he obtains written permission from property owners. Copies of all agreements with property owners shall be furnished to the Engineer.
- C. All materials not designated to be salvaged shall be disposed. Salvaged material shall be immediately delivered to the site specified in the Contract Documents. Only salvaged material designated by the Engineer for re-use shall be stockpiled at the site in a location approved by the Engineer.
- D. The Contractor shall remove existing concrete or asphalt pavement, Concrete sidewalks and concrete or asphalt curbs shown to be removed on the plans or as directed by the Engineer.
 - 1. Thickness of the pavement, sidewalks or curbs to be removed may vary and the Contractor shall be responsible for predetermining the actual thickness.
 - 2. When portions of existing pavement, sidewalk or curbs are to remain in place, the Contractor shall remove only precut sections. The Contractor shall use caution during removal to prevent jagged or torn edges on remaining pavement, sidewalk or curb. Should jagged or torn edges occur during removal, the Contractor shall correct the condition by removing and replacing the damaged areas with no additional compensation.
 - 3. Any asphalt or concrete pavement that must be removed shall be saw cut.

3.2 DISPOSAL OF MATERIAL

- A. All resulting rubble shall be immediately transported off the site in truckload lots and disposed of by the Contractor at the Contractor's expense. Trash fires shall be allowed by proper regulatory permit only.
- B. All disconnected underground utilities found in excavated areas shall be removed and disposed of off site by the Contractor.

3.3 FILLING OF HOLES

- A. All holes caused by removal of obstructions shall be backfilled with suitable excavated backfill material in 12-inch layers to the elevation of the adjacent ground surface. Each layer shall be compacted to a density at least equal to that of the adjoining undisturbed soil.

3.4 FENCES

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- A. Where fences are to be disassembled for construction purposes, the Contractor shall stockpile the existing fencing material neatly on the property owner's property. Fencing shall be replaced after construction operation to restore them to their pre-construction locations and condition.

3.5

CLEAN UP

- A. Upon completion of all demolition, removal, and salvage work the Contractor shall clean the project site in a manner satisfactory to the Engineer.

END OF SECTION 02120

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SECTION 02230 - SITE CLEARING

1.0 GENERAL

1.1 SECTION INCLUDES

- A. Removal of surface, and subsurface debris to a depth of 18 inches below, proposed finish grade, or as needed to achieve the proposed improvements indicated on plans and details.
- B. Removal of trees, shrubs, and other plants.
- C. Removal of sod.

1.2 RELATED SECTIONS

- A. SECTION 02100 - Site Preparation

1.3 PROJECT CONDITIONS

- A. Coordinate clearing work with utility companies.
- B. Protect utilities to remain from damage.
- C. Protect trees, plants and other features designated to remain as final landscaping.
- D. Protect benchmarks, survey control points, and existing structures from damage or displacement.

1.4 QUALITY ASSURANCE

- A. Perform work in accordance with Alabama Department of Transportation Standard Specifications of Highway Construction, Latest Edition.

1.5 MEASUREMENT

- A. There shall be no measurement for site clearing.

1.6 PAYMENT

- A. Payment for site clearing shall be a subsidiary obligation of site preparation.

2.0 EXECUTION

2.1 PREPARATION

- A. Locate and identify utilities to remain.
- B. Verify that existing plants designated to be protected are as indicated.

2.2 CLEARING

- A. Clear areas required for access to site and execution of Work.
- B. Remove trees, shrubs, and stumps within marked areas.
- C. Clear undergrowth and deadwood without disturbing subsoil.
- D. Remove existing sod without disturbing topsoil.

2.3 REMOVAL

- A. Remove surface rock.
- B. Remove portions of concrete, asphalt, or other material; as indicated. Neatly saw cut edges at right angle to surface.
- C. Remove debris from site.

END OF SECTION 02230

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SECTION 02276 - SLOPE PROTECTION

1.0 GENERAL

1.1 RELATED WORK

- A. DIVISION 3 - CONCRETE
- B. Section 02100 - Site Preparation
- C. Section 02222 - Excavation

1.2 DESCRIPTION

- A. The Contractor shall provide all labor, materials and equipment for the placement of riprap to the grades as indicated on the Plans.
- B. Placement of riprap shall not begin until the work to be covered has been inspected and approved by the Engineer.
- C. The Contractor shall provide all labor, materials and equipment for the placement of concrete for slope-paved ditches and concrete flumes to the lines and grades as indicated on the Plans.
- D. The Contractor shall provide all labor, materials and equipment for the construction of silt fence ditch checks at the locations and to the lines and grades as indicated on the Plans.

1.3 MEASUREMENT

- A. Riprap shall be measured by net weight measure in approved hauling vehicles. Riprap shall be measured by the ton (2,000 pounds). The contractor shall supply certified weight tickets when riprap shall be hauled in trucks or rail cars. When riprap is delivered by barge, measurement shall be made by calculation from barge displacement, based upon water weighing 62.4 pounds per cubic foot.
- B. Geotextile fabric under riprap will not be measured for payment. Cost of the same shall be included in the lump sum cost of site preparation.
- C. Silt fence ditch checks will not be measured for payment. Cost of the same shall be included in the lump sum cost of site preparation.
- D. Silt fences outside of ditches will not be measured for payment. Cost of the same shall be included in the lump sum cost of site preparation.

1.4 PAYMENT

- A. There shall be no direct payment for Slope Protection. Cost of Slope Protection shall be incidental to the cost of the project.

2.0 PRODUCTS

2.1 RIPRAP

- A. Riprap shall consist of stone that will not disintegrate upon exposure to the elements or be easily broken from handling, and shall be reasonably free from earth and other foreign materials. Stone for riprap shall consist of fieldstone or rough unhewn quarry stone nearly rectangular in section as is practical. Sound pieces of broken concrete of proper size and weight will be acceptable as stone for riprap, but only one type of riprap may be used on the project. This riprap shall comply with material and gradation requirements of Class 2 Riprap per Section 814 of the latest edition of the Alabama Department of Transportation Standard Specifications for Highway Construction, except as modified in these specifications.
- B. Control of the gradation of the various classes of riprap will be by visual inspection either at the source or the project site at the Engineer's option. Any difference of opinion between the Engineer and the Contractor shall be resolved by checking 2 random truckloads (or equivalent size sample) in accordance with the method provided in AHD 239 with all the equipment, labor, and sorting site for this check being provided by the Contractor at his expense.
- C. Riprap shall be Class 2 riprap consisting of graded stones ranging from 10 to 200 pounds with not more than 10 percent weighing over 200 pounds, at least 50 percent weighing over 80 pounds, not over 10 percent weighing less than 10 pounds and not more than 10 percent passing a 5-inch square screen.
- D. Material shall be produced from sound durable rock with a specific gravity of at least 2.50. Percentage of wear (L.A. Abrasion) not greater than 50 percent (AASHTO T 96). The material shall be free of cracks, soft seams, or other structural defects. The pieces shall be roughly angular and shall be reasonably free from thin, flat or elongated pieces. Riprap shall be reasonably free of dust and fines.

2.2 CONCRETE

- A. Concrete for slope paving and flumes shall be 3000 psi concrete conforming to the requirements of Section 03300.

2.3 SILT FENCE DITCH CHECK

- A. Geotextile Filter Fabric for silt fences shall meet the requirements of AASHTO M 288. The geotextile fabric shall be resistant to chemical attack, rot, and mildew and shall have no tears or

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defects which adversely alter its physical properties. Geotextile fabric shall meet the following minimum requirements:

AOS , US Sieve, Min.	20	ASTM-D-4751
Grab Tensile, Pound, Min.	90	ASTM-D-4632
Percent Elongation @ Failure, Min.	15-50	ASTM-D-4632
Permittivity,gal/min/ft. ²	15	ASTM-D-4491
Ultraviolet Stability (%)	80	ASTM-D-4355
Strength Retained at 500 h Weatherometer, Percent, Min.	70	ASTM-D-4632

- B. Woven Wire Fence shall be No. 9 farm fence, design 1047-6-9, having either a Class 2 Zinc Coating conforming to the requirements of ASTM A 116 or a Class 2 Aluminum Coating conforming to the requirements of ASTM A 584.
- C. Posts for silt fence ditch check shall be either wood or steel installed a minimum of two feet in the ground. Posts shall provide a sufficient length for attaching wire fabric and embedding in soil such that fence will be adequate to handle stress from sediment loading.
- D. Hay bales may be either hay or straw containing five cubic feet of material and weighing not less than 35 pounds

3.0 EXECUTION

3.1 PLACEMENT OF RIPRAP

- A. Prior to placement, subgrade or existing ground surface shall be excavated or regraded to conform with slopes and elevations specified in the plans. Any existing washes, ruts, or voids shall be filled and compacted to provide a uniform placement surface.
- B. Engineer shall approve graded area for placement of riprap prior to beginning work.
- C. Geotextile Fabric shall be placed on a prepared subgrade and the riprap carefully deposited on the geotextile fabric.
- D. Material shall be placed so that random sized pieces are evenly distributed and "pockets" of excessively small or large material are avoided. The Engineer shall require redistribution of the material if necessary.
- E. Riprap shall be placed in ditches at the locations and to the lines grades and thickness as noted on the drawings and as directed by the Engineer. Material layer thickness shall be uniform, and follow the plan lines as closely as possible. Thickness tolerances will be 3 ± inches. This may be altered at the discretion of the Engineer to account for material size variations.

3.2 CONCRETE SLOPE PAVING AND FLUMES

- A. The slope to be paved shall be uniformly dressed and compacted with mechanical tampers to the satisfaction of the Engineer before placing the concrete. Where grading has been completed under another contract and regrading is necessary to obtain correct grades for the slope paving, such regrading shall be considered incidental to the placement of the slope paving and no measurement or direct payment for such shall be made.
- B. The concrete shall be mixed, placed, finished and cured in accordance with Division 3 - Concrete.
- C. Weep holes approximately three inches in diameter shall be placed in alternate runs of the pavement where deemed necessary by the Engineer.
- D. After placing, the concrete shall be finished smooth and unless otherwise directed, when partially set, shall be cut with a finishing tool as shown on the plans. Where reinforced concrete slope paving is specified on the plans, reinforcement shall be placed in accordance with the details shown on the plans and in accordance with Section 03200.
- E. Unless otherwise shown on the plan details; joints for slope-paved areas shall be in accordance with the following:
 - 1. Contraction Joints
 - a. This type joint is essentially provided to control cracking and may be formed by tooling, sawing or other approved methods for not less than one-fifth nor more than one-fourth the depth of the concrete. Except for sawed joints, all joints shall be finished with a 1/4-inch edging tool.
 - b. For flumes and ditch paving not adjacent to other paving the transverse contraction joint spacing shall be as approved by the Engineer, but shall not exceed 30 feet. Longitudinal contraction joints may be ordered by the Engineer for paving widths in excess of 30 feet, but are not to be placed where joint cracking will cause excessive seepage into subgrade.
 - c. For medians, islands, and ditches paved adjacent to curbs, gutters, or other paving, the transverse contraction joint spacing shall be located wherever possible to line up with existing joints. Longitudinal contraction joints may be ordered for paving widths in excess of 20 feet to control pavement cracking.

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2. Construction Joints
 - a. The use and spacing of construction joints shall be as approved by the Engineer consistent with the planned contraction and expansion joints for the paved area and the contractor's paving plan. The edges of all construction joints shall be finished with a 1/4-inch edging tool unless otherwise ordered by the Engineer.
3. Unless otherwise shown by plan details or directed by the Engineer, expansion joints 3/8 inch wide shall be placed as follows:
 - a. Where the slope paving joins drainage structures and other rigid structure supports.
 - b. To line up with expansion joints of adjoining pavement, curbs, gutters, etc., but in no instance more than 80 feet between joints.
 - c. Where continuous runs of slope paving are 80 feet or longer, transverse expansion joints shall be provided; one joint for each additional 80 feet, or fraction thereof, of length.
 - d. Where slope paving is confined longitudinally by other concrete units and the width of the slope paving is in excess of 15 feet, one longitudinal expansion joint will be required for each additional 15 feet, or fraction thereof, of width.
 - e. Expansion joints shall be formed using a filler and sealer as specified in Articles 832.01 and 832.02 of the Alabama Department of Transportation Standard Specifications for Highway Construction, Latest Edition. Unless shown otherwise by plan details, the joint filler shall be from the bottom, of the slope paving to one inch from the top; the sealer shall be three-fourth inch thick and shall be recessed one-fourth inch from the top of the slope paving.

3.3 SILT FENCE DITCH CHECK

- A. Silt fence ditch checks consist of a woven wire fabric, mounted on posts, with a geotextile filter attached to the fence fabric. Fence height shall be as specified by the Engineer, but in no case shall exceed 36 inches above ground surface.
- B. The contractor shall install temporary silt fence ditch checks as shown on the plans, and at other locations as directed by the Engineer. Fence Construction shall be adequate to handle the stress from sediment loading.
- C. At the bottom of the fence, the geotextile fabric shall be buried a minimum of six inches in a trench so that no flow can pass under the barrier. The trench shall be backfilled and the soil compacted over the geotextile. The geotextile shall be spliced together only at a support post with a minimum of six inches overlap. Splices shall be made in accordance with the fabric manufacturer's recommendations.
- D. The wire mesh shall be fastened securely to the upslope side of the post. The wire shall extend into the trench a minimum of two inches and extend a maximum of 36 inches above the original ground surface.
- E. Silt fences shall be continuous and transverse to the flow, and limited to handle an area equivalent to 1000 square feet per 10 feet of fence.

3.4 MAINTENANCE

- A. The Contractor shall maintain the integrity of silt fences as long as they are necessary to control sediment runoff. Should the silt fence become damaged or otherwise ineffective while the barrier is still necessary, it shall be repaired promptly with a new section of geotextile filter fabric overlapping 12 inches on each side of a break.
- B. The Contractor shall inspect all temporary silt fences immediately after each rainfall and at least daily during prolonged rainfall. Any deficiencies shall be immediately corrected by the Contractor.
- C. The Contractor shall make a daily review of the location of silt fences in areas where construction activities have changed the natural contour and drainage runoff to ensure that the silt fences are properly located for effectiveness. Where deficiencies exist, additional silt fences shall be installed as directed by the Engineer.
- D. Sediment deposits shall be either removed when the deposits reach approximately one-half the height of the silt fence or a second silt fence shall be installed as directed by the Engineer.
- E. Hay bales shall be securely anchored by the use of stakes and wire or other approved methods.
- F. The silt fences shall remain in place until the engineer directs that it be removed. Upon removal, the Contractor shall remove and dispose of any silt accumulations, dress the area to give a pleasing appearance, and vegetate all bare areas in accordance with the contract requirements.

END OF SECTION 02276

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SECTION 02505 - AGGREGATE SURFACE COURSE

1.0 GENERAL

1.1 RELATED SECTIONS

- A. Section 02100 - Site Preparation
- B. Section 02222 - Excavation

1.2 DESCRIPTION

- A. This work consists of furnishing and constructing aggregate surface courses for roadways, shoulders, drives or other facilities in accordance with these specifications, and in conformity with the lines, grades, thickness and typical sections shown on the plans or as directed by the Engineer.
- B. The Contractor shall provide all labor, materials and equipment for the placement and compaction of aggregate surface course.

1.3 MEASUREMENT

- A. The quantities of aggregate surface course for payment will be the design quantities as specified in the plans and adjustments thereto. Design quantities are based on the horizontal dimensions and the compacted thickness of the completed aggregate surface course as shown on the plans. Design quantities will be adjusted if the Engineer makes changes to adjust to field conditions, if plan errors are proven or if design changes are necessary.

1.4 PAYMENT

- A. Payment for aggregate surface course will be made at the contract unit price per ton, which includes furnishing, placing, and compacting required aggregate materials, water and lime.

2.0 PRODUCTS

2.1 AGGREGATE SURFACE COURSE

- A. Aggregate Surface Course shall be coarse aggregate conforming to ALDOT #825B stone backfill gradation requirements of Section 801 of the Alabama Standard Specifications for Highway Construction, latest edition.

2.2 EQUIPMENT

- A. Equipment necessary to produce a finished product meeting specification requirements shall be furnished and maintained by the Contractor. Equipment will be approved prior to use.

3.0 EXECUTION

3.1 PLACEMENT OF MATERIALS

- A. The material shall be placed directly on the prepared and approved subgrade from hauling vehicles or spreading equipment. No surface course shall be placed on damaged subgrade until repairs as directed by the Engineer have been completed and approved.
- B. Aggregate surfacing materials shall not be placed on or spread on adjacent portland cement concrete or asphaltic concrete pavements. Aggregate surfacing operations shall be conducted so that pavement surfaces, edges and joints are not damaged.

3.2 MIXING

- A. Stone shall be a uniform blend, sampled in dedicated stockpiles and approved prior to placement.

3.3 SHAPING AND COMPACTING AGGREGATE SURFACE COURSE

- A. The material shall be shaped by suitable means and compacted. Shaping and compacting shall continue until the surface conforms to the required sections and is free from ruts and waves.
- B. Aggregate surfacing shall be compacted to the satisfaction of the Engineer by approved methods. After initial compaction, the surface shall be wetted as necessary and rolled with a pneumatic-tire or steel wheel roller to a tight uniform surface. Aggregate shall be compacted to 98% standard proctor density.
- C. Percentage of Standard Proctor Density:
 - 1. Compacted aggregate shall be compacted to 98% Standard Proctor in accordance with ASTM D 698.

3.4 DIMENSIONAL TOLERANCES

- A. When net section measurement is specified, the thickness and width of completed aggregate surface course will be checked for acceptance. The Engineer will take measurements to ensure the work's conformance to plan dimensions. Areas with thickness and width deficiencies in excess of the following tolerances shall be corrected to plan dimensions by furnishing, placing, reworking, shaping, and compacting additional materials as required at no direct pay.
 - 1. Thickness: Under thickness shall not exceed 1/2 inch. Over-thickness may be waived at no additional cost to the Owner.
 - 2. Width: Under width on roadways shall not exceed 3 inches. Over width may be waived at no additional cost to the Owner.

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3.5

MAINTENANCE

A. Protection of Aggregate Surface Course:

1. Repair and reestablish grades in settled, eroded, and rutted areas to specified tolerances.
2. Where completed areas are disturbed by subsequent construction operations or adverse weather, Contractor shall remove and replace aggregate surface course and reshape and compact to required density prior to further construction at no direct cost to the Owner.

END OF SECTION 02505

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SECTION 02923 - SODDING

1.0 GENERAL

1.1 SECTION INCLUDES

- A. Fertilizing
- B. Sod installation
- C. Maintenance

1.2 REFERENCES

- A. TPI (SPEC) – Guideline Specifications to Turfgrass Sodding; Turfgrass Producers International; 1995.

1.3 DEFINITIONS

- A. Weeds: Includes Dandelion, Jimsonweed, Quackgrass, Horsetail, Morning Glory, Rush Grass, Mustard, Lambsquarter, Chickweed, Cress, Crabgrass, Canadian Thistle, Nutgrass, Poison Oak, Blackberry, Tansy Ragwort, Bermuda Grass, Johnson Grass, Poison Ivy, Nut Sedge, Nimble Will, Bindweed, Bent Grass, Wild Garlic, Perennial Sorrel, and Brome Grass.
- B. Plants: Living trees, plants, and ground cover specified in this Section, and described in ANSI Z60.1.

1.4 QUALITY ASSURANCE

- A. Sod Producer: company specializing in sod production and harvesting with minimum five years experience, and certified by the State of Alabama.
- B. Installer Qualifications: Company specializing in installing and planting plant material with three years experience. Adequate numbers of skilled workmen trained and experienced in the work and familiar with the requirements and methods for the performance of the work. On-site superintendent knowledgeable of horticultural practices at all times. Contractor to provide all labor, equipment, materials and services necessary to complete the Work of this Section.

1.5 REGULATORY REQUIREMENTS

- A. Comply with regulatory agencies for fertilizer and herbicide composition.
- B. Sod shall be cut from fields that have been certified to variety by the Alabama State Department of Agriculture.

1.6 SUBMITTALS

- A. Certification: Submit certification of grass species and location of sod source.

1.7 DELIVERY, STORAGE, AND HANDLING

- A. Deliver sod on pallets. Protect exposed roots from dehydration.
- B. Do not deliver more sod than can be laid within 24 hours.

1.8 MAINTENANCE SERVICE

- A. Maintain sodded areas immediately after placement until grass is well established and exhibits a vigorous growing condition until date of Substantial Completion.

1.9 MEASUREMENT AND PAYMENT

- A. Sodding is to be measured on a square yard basis.
- B. Sodding will be paid for on a lump sum basis, complete and in place, including all labor and incidentals required to meet this specification.

2.0 PRODUCTS

2.1 PLANT MATERIALS

- A. Sod: TPI, Certified Turfgrass Sod quality; cultivated grass sod; type indicated in plant schedule on Drawings; with strong fibrous root system, free of stones, burned or bare spots; containing no more than five weeds per 1000 sq ft (100 sq m). Minimum age of 18 months, with root development that will support its own weight without tearing, when suspended vertically by holding the upper two corners.

2.2 SOIL MATERIALS

- A. Topsoil shall be supplied, and placed by the landscape contractor.
- B. Topsoil shall be a fertile, loamy, friable sandy loam, typical for locality, containing 2 to 5 percent by weight organic matter, free from subsoil, refuse, roots, heavy or stiff clay, hardpan, stones larger than one inch, noxious seeds, litter, and other deleterious substances; suitable for the germination of seeds and the support of vegetative growth. All extraneous matter measuring 1.5 inches or greater in any direction shall be removed from topsoil.
- C. The pH value should be between 5.0 to 7.0. Should regenerative materials be present in the soil, contractor shall eradicate and remove all such surface and root growth, which may appear in the imported material within one year of acceptance of the material.
- D. Soil Texture with the following particle size distribution:

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1. Organic Matter – 5% to 10%
 2. Gravel – less than 10%
 3. Coarse Sand – 50% to 70%
 4. Silt – less than 20%
 5. Clay – 20% to 30%
- E. Sample and test 1 soil sample per 500 CY of material required. Tests shall be performed by soil testing laboratory approved in advance by Engineer. Submit soil test reports for approval prior to transport of topsoil. Test to include: percent organic and inorganic matter, mineral and nutrient content and pH. Topsoil shall be amended as recommended in the soil test report in order to meet specified characteristics.
- F. Provide a minimum of one soil sample with the accompanying soil test report per 500 CY of material required from samples obtained randomly throughout the source field location or stock pile.

2.3 SOIL AMENDMENT MATERIALS

- A. Fertilizer: Containing fifty percent of the elements derived from organic sources; of proportion necessary to eliminate any deficiencies of topsoil, as indicated in analysis. Fertilizer shall be uniform in composition, dry and free flowing, supplied to site in the original, un-opened container, bearing the Manufacturer's guaranteed analysis. Fertilizer shall not be stored in direct contact with the ground.
- B. Acceptable fertilizer manufacturers: Sta-Green – Nursery Special, Scott's, or approved equal.
- C. Decomposed organic matter: well rotted organic matter of uniform composition, containing no weeds, grasses, plants, or their seeds, nor any substance harmful to plant pH.
- D. Lime: Ground limestone, dolomite type, minimum 95 percent carbonates. Apply at a rate specified in soil test report.
- E. Water: Clean, fresh, and free of substances or matter which could inhibit vigorous growth of plants.
- F. Coarse Sand: Fine aggregate meeting ASTM C-33; free of substances harmful to plant growth.
- G. Expanded shale: Acceptable Manufacturer, Vulcan Materials Co., Shale #540 or approved equal.

2.4 ACCESSORIES

- A. Wood Pegs: Softwood, sufficient size and length to ensure anchorage of sod on slope.
- B. Wire Mesh: Interwoven hexagonal metal wire mesh of two-inch (50mm) size.
- C. Herbicide: Chemical pre-emergent, approved. Chemical contact spray, Roundup or approved equal.

2.5 HARVESTING SOD

- A. Machine cut sod and load on pallets in accordance with TPI Guidelines.
- B. Sod shall be cut into strips of uniform width and thickness with square ends.
- C. Cut sod in area not exceeding one sq yd (1 sq m), with minimum 1/2-inch (13mm) and maximum one-inch (25 mm) topsoil base.

3.0 EXECUTION

3.1 EXAMINATION

- A. Verify that prepared soil base is ready to receive the work of this Section. Sod bed shall be fine graded with positive drainage and a firm soil surface.

3.2 PREPARATION

- A. Prior to installing any topsoil or planting mix, the Engineer shall approve the condition of the subgrade and subsurface drainage material.
- B. Place topsoil and Planting Mix during dry weather and on dry unfrozen subgrade.
- C. Remove vegetative matter and foreign non-organic material from topsoil while spreading.
- D. Grade topsoil to eliminate rough, low or soft areas, and to ensure positive drainage.
- E. Fine grading: Grade the finish surface of all areas to be planted or sodded to meet the grades shown on the drawings after settling. Provide for positive drainage from all areas toward inlets and drainage structures. Provide smooth transitions between slopes of different gradients and direction. Modify grade so that the finish grade is flush with all paving surfaces or as directed by the drawings. The tolerance for dips in lawn areas is 1/2-inch deviation from the plane in 10 feet. The tolerance for dips in planting areas is 1-inch deviation in 10 feet.
- F. Thoroughly soak the soil after installation but prior to sodding or planting. Let soil stand for a minimum of three days after soaking to accommodate initial settling. Reset grades after soil has settled.

3.3 FERTILIZING

- A. Apply fertilizer in accordance with manufacturer's instructions.
- B. Apply after smooth raking of topsoil and prior to installation of sod.
- C. Apply fertilizer no more than 48 hours before laying sod.
- D. Mix thoroughly into upper two inches (50 mm) of topsoil.
- E. Lightly water to aid the dissipation of fertilizer.

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3.4 LAYING SOD

- A. Moisten prepared surface immediately prior to laying sod.
- B. Lay sod immediately after delivery to site to prevent deterioration. Prevent sod from drying out. Sod damaged from heat or dry conditions shall not be used.
- C. Lay sod tight with no open joints visible, and no overlapping; stagger end joints 12 inches (300 mm) minimum. Do not stretch or overlap sod pieces.
- D. Lay smooth. Align with adjoining grass areas.
- E. Place top elevation of sod 1/2-inch (13 mm) below adjoining edging.
- F. On slopes six inches per foot (500 mm per m) and steeper, lay sod perpendicular to slope and secure every row with wooden pegs at maximum two feet (600 mm) on center. Drive pegs flush with soil portion of sod.
- G. Prior to placing sod, on slopes exceeding eight inches per foot (666 mm per m) or where indicated, place wire mesh over topsoil. Securely anchor in place with wood pegs sunk firmly into the ground.
- H. Water sodded areas immediately after installation. Saturate sod to four inches (100 mm) of soil.
- I. After sod and soil have dried, roll sodded areas to ensure good bond between sod and topsoil and to remove minor depressions and irregularities. Roll sodded areas with roller not exceeding 112 lbs (50 kg).

3.5 CLEAN UP AND PROTECTION

- A. Keep project site clean and orderly during planting operations.
- B. Clear grounds of debris, superfluous materials and all equipment upon completion of work. Remove from site to the satisfaction of the Engineer and Owner.
- C. Protect all work and materials from damage due to landscape operations and operations by other contractors, trades and trespassers. Maintain protection until Date of Substantial Completion.
- D. Contractor is responsible for theft of equipment and material at the job site before, during and after installation, until Date of Substantial Completion of Work.

3.6 MAINTENANCE

- A. Water landscape areas not covered by automatic irrigation system as necessary to maintain proper moisture level.
- B. Fertilize plant material using the following guide:
 - 1. Mid March application of 23-3-3 (slow release nitrogen)
 - 2. April 1 application of iron chelate
 - 3. Mid June application of 12-6-6
 - 4. August 1 application of 15-0-15
- C. Control growth of weeds. Apply herbicides in accordance with manufacturer's instructions. Two applications (Spring and Fall) of chemical pre-emergent spray, approved. Two applications during growing season of chemical contact spray, approved. Two days per month manual weeding (by hand) during the period from March 1 to September 30, remove all visible weeds.
- D. Observe all applicable laws, statutes, and ordinances regulating the purchase, use application and licensing for all pesticides.
- E. Clean up adjacent walks and pavement where littered as a result of maintenance operations.
- F. Mowing: Mow grass at regular intervals to maintain a height of 1.5-2 inches. Never remove more than 1/3 of leaf blade at a time. Seeded and sodded lawns should have at least one mowing before receiving Substantial Completion.
- G. Immediately remove clippings after mowing and trimming.
- H. If thatch exceeds 1/2-inch depth, use a vertical mower, dethatcher or other suitable equipment to remove excess buildup.
- I. Resodding: Rework and resod areas which fail to show a uniform stand of grass. Perform work with the same sod type until all areas are covered with a uniform stand of grass.

END OF SECTION 02923

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SECTION 02936 - SEEDING AND MULCHING

1.0 GENERAL

1.1 WORK INCLUDED

- A. The Contractor shall furnish all labor and materials necessary for preparation of seed beds, mulching, furnishing and sowing grass seeds, furnishing and applying commercial fertilizer and water, and maintenance on the areas designated on the Contract Drawings, or as directed by the Engineer and as specified herein.
- B. Refer to all applicable sections of ALDOT Standard Specifications for Highway Construction, Latest Edition.

1.2 RELATED WORK

- A. DIVISION 2 – SITEWORK

1.3 DEFINITIONS

- A. Weeds: Includes Dandelion, Jimsonweed, Quackgrass, Horsetail, Morning Glory, Rush Grass, Mustard, Lambsquarter, Chickweed, Cress, Crabgrass, Canadian Thistle, Nutgrass, Poison Oak, Blackberry, Tansy Ragwort, Bermuda Grass, Johnson Grass, Poison Ivy, Nut Sedge, Nimble Will, Bindweed, Bent Grass, Wild Garlic, Perennial Sorrel, and Brome Grass.

1.4 REGULATORY REQUIREMENTS

- A. Comply with regulatory agencies for fertilizer and herbicide composition.
- B. All seed used shall comply with the Alabama Seed Law, Act No. 424, General Acts, 1963, Vol. 2, page 931, and rules and regulations promulgated thereunder, and any revisions to the ACT.
- C. All fertilizers shall comply with Alabama Fertilizer Laws, Title 2, Sections 282 through 300, Code of Alabama.

1.5 QUALITY ASSURANCE

- A. Provide seed mixture in containers showing percentage of seed mix, year of production, net weight, date of packaging, and location of packaging.
- B. Installer Qualifications: Company specializing in installing and planting plant material with three years experience. Adequate numbers of skilled workmen trained and experienced in the work and familiar with the requirements and methods for the performance of the work. On-site superintendent knowledgeable of horticultural practices at all times. Contractor to provide a superintendent knowledgeable of horticultural practices at all times. Contractor to provide all labor, equipment, materials and services necessary to complete the Work of this Section.
- C. Maintenance Services: Performed by installer.

1.6 MAINTENANCE DATA

- A. Submit maintenance data for continuing Owner maintenance
- B. Include maintenance instructions, cutting method and maximum grass height, types, application frequency, and recommended coverage of fertilizer and herbicide for controlling weeds.

1.7 DELIVERY, STORAGE AND HANDLING

- A. Deliver products to site.
- B. Store and protect products under provisions of Section 01620.
- C. Deliver grass seed mixture in sealed containers. Seed in damaged packaging is not acceptable.
- D. Deliver fertilizer in waterproof bags showing weight, chemical analysis, and name of manufacturer.

1.8 MAINTENANCE SERVICE

- A. Maintain and water seeded areas immediately after placement until grass is well established and exhibits and vigorous growing condition. Provide a minimum of three cuttings. Provide maintenance for six months after the Date of Substantial Completion or longer until grass is accepted.

1.9 MEASUREMENT

- A. The seeding and fertilizing will be measured in acres parallel to the surface of seed and fertilizer of the specified mix, completed and accepted.
- B. Mulching will not be measured.

1.10 PAYMENT

- A. Completed and accepted seeding will be paid for at the contract unit price per lump sum for Seeding and Mulching, which price shall be full compensation for all top soil, fertilizing and ground preparation, furnishing and preparing all fertilizers, seeds and inoculants, including water needed in mixing, planting and maintaining of the seeded areas until final acceptance, and for all materials, equipment, tools, and labor necessary to complete the work.
- B. There shall be no direct payment for fertilizing or mulching. Fertilizing and mulching are a subsidiary obligation of seeding.

2.0 PRODUCTS

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2.1

SEED MIXTURE

A. Seed Mixture:

1. Grass Seed Mix 4B (April thru June): Shall be 25% maximum Bermuda grass (*Cynodon dactylon*) (Hulled) minimum 85% by weight of pure live germinable seed, minimum 98% purity, 37.5% maximum Kentucky 31 or Alta Fescue minimum 85% by weight of pure live germinable seed, minimum 98% purity, and 37.5% maximum Kobe minimum 80% by weight of pure live germinable seed, minimum 95% purity. Seed shall be labeled in accordance with the latest U.S. Department of Agriculture Rules and Regulations under the Federal Seed Act.
2. Grass Seed Mix 5B (July and August): Shall be 28% maximum Bermuda grass (*Cynodon dactylon*) (Hulled) minimum 85% by weight of pure live germinable seed, minimum 98% purity, 33% maximum Pensacola Bahiagrass minimum 85% by weight of pure live germinable seed, minimum 90% purity, and 39% maximum Reseeding Crimson Clover (Certified or Affidavit Grown) minimum 85% by weight of pure live germinable seed, minimum 99% purity. Seeds shall be labeled in accordance with the latest U.S. Department of Agriculture Rules and Regulation under the Federal Seed Act.
3. Grass Seed Mix 6B (September thru March): Shall be 27% maximum Bermuda grass (*Cynodon dactylon*) (Unhulled) minimum 85% by weight of pure live germinable seed, minimum 98% purity, 23% Kentucky 31 or Alta Fescue minimum 85% by weight of pure live germinable seed, minimum 98% purity, 27% maximum Reseeding Crimson Clover (Certified or Affidavit Grown) minimum 85% by weight of pure live germinable seed, minimum 99% purity, and , 23% Annual Ryegrass minimum 85% by weight of pure live germinable seed, minimum 98% purity. Seeds shall be labeled in accordance with the latest U.S. Department of Agriculture Rules and Regulation under the Federal Seed Act.
4. Seed mixture shall follow ALDOT specifications, latest edition.

2.2

ACCESSORIES

- A. Fertilizer: Type 8-8-8 meeting the requirements of Sections 652 and 860 of the Alabama Department of Transportation Specifications, 2001 Edition.
- B. Water: Clean, fresh and free of substances or matter which could inhibit vigorous growth of grass.
- C. Mulch: Material shall follow the requirements of ALDOT Specifications 652 and 860, latest edition.

2.3

SUBMITTALS

- A. Submit seed product information, instructions and guaranteed analysis showing seed variety, percentage of seed purity, percentage of germination, percentage of weed and inert matter, net weight, date of packaging or date last tested for germination.
- B. Submit manufacturer's product literature, instructions and guaranteed analysis for fertilizer.

3.0

EXECUTION

3.1

INSPECTION

- A. The Contractor shall notify the Engineer at least twenty-four (24) hours in advance of the time he intends to start inoculating and mixing seed or begin sowing seed and shall not proceed with such work until permission to do so has been given.
- B. All ground preparation, incorporation of fertilizer, inoculation of seed, seed mixing, and other work preparatory to planting as well as the operation of sowing, covering, and rolling shall be done in the presence of the Inspector.
- C. The Inspector shall verify that prepared soil base is ready to receive the work of this Section.
- D. Beginning of installation means acceptance of existing site conditions.

3.2

GROUND PREPARATION

- A. Prepare subsoil to eliminate uneven areas and low spots. Maintain lines, levels, profiles and contours. Make changes in grade gradual. Blend slopes into level areas.
- B. Remove foreign materials, weeds and undesirable plants and their roots. Remove contaminated subsoil.
- C. Ground preparation shall consist of cultivation of prepared subsoil grades by disking, harrowing, or plowing to a loose depth of four inches.
- D. Stockpiled topsoil shall be spread on the cultivated grades to a minimum depth of four inches and then the area shall be disked or harrowed through the layer of topsoil and at least two inches into the subsoil.
- E. If adequate topsoil is not available on the project site, the Contractor shall import topsoil to the site.
- F. Excess stockpiled topsoil at the end of seeding and fertilizing operations shall be disposed of as excess soil as directed in Section 02222.

3.3

FERTILIZING

- A. Fertilizer shall be applied as specified in Section 652.03 of the Alabama Department of Transportation Standard Specifications, Latest Edition to provide a minimum of 120 pounds of

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nitrogen, 120 pounds of available phosphoric acid and 120 pounds of total potash per acre as computed from the nominal contents of fertilizing ingredients.

- B. Apply fertilizer in accordance with manufacturer's instructions at a rate of 1500 lbs per acre.
- C. Apply after smooth raking of topsoil and prior to roller compaction.
- D. Do not apply fertilizer at same time or with same machine as will be used to apply seed.
- E. Lightly water to aid the dissipation of fertilizer.

3.4 SEEDING

- A. Seed Mixture 4B shall be applied at a rate of 80 lbs. per acre. Seed Mixture 5B shall be applied at a rate of 90 lbs. per acre. Seed Mixture 6B shall be applied at a rate of 110 lbs. per acre. Rake in lightly. Do not seed area in excess of that which can be mulched on same day. Apply same day finish grading is complete.
- B. No operations involving seeding shall be undertaken when the weather conditions are unfavorable, such as high winds or rain. The Contractor shall obtain approval of the Engineer prior to undertaking any seeding operations.
- C. Apply water with a fine spray immediately after each area has been seeded. Saturate to 4 inches of soil.

3.5 SEED PROTECTION

- A. Protect seeded areas from foot and vehicular traffic by placing string around area periphery. Maintain until grass is established.
- B. Mulching operations shall follow ALDOT Specification Section 656, Latest Edition.

3.6 MAINTENANCE

- A. The Contractor shall produce a dense, vigorous, well established lawn and shall maintain lawn areas until the Owner's acceptance of Substantial Completion.
- B. Mow grass at regular intervals to maintain at a maximum height of 7 inches.
- C. Water to prevent grass and soil from drying out. A minimum amount of water would be two, one inch applications of water or rain per week.
- D. Roll surface to remove minor depressions or irregularities.
- E. Immediately reseed areas which show bare spots. An acceptable lawn is defined as a cover of living grass in which gaps larger than 4" do not occur.
- F. Protected seeded areas with warning signs during maintenance period.

3.7 CLEAN UP AND PROTECTION

- A. Keep project site clean and orderly during planting operations.
- B. Clear grounds of debris, superfluous materials and all equipment upon completion of work. Remove from site to the satisfaction of the Engineer and Owner.
- C. Protect all work and materials from damage due to landscape operations and operations by other contractors, trades and trespassers. Maintain protection until Date of Substantial Completion.
- D. Contractor is responsible for theft of equipment and material at the job site before, during and after installation, until Date of Substantial Completion of Work.

END OF SECTION 02936

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SECTION 02970 - LANDSCAPE MAINTENANCE

1.0 GENERAL

1.1 SECTION INCLUDES

- A. Plant Pruning.
- B. Irrigation and watering.
- C. Fertilization schedule.
- D. Weeding, manual and chemical applications.
- E. Reseeding, resodding and mowing.
- F. Clean-up.

1.2 RELATED WORK

- A. Section 2900 - Landscaping
- B. Section 2923 - Sodding
- C. Section 2936 - Seeding and Fertilizing

1.3 REFERENCES

- A. ANSI Z60.1 – American Standard for Nursery Stock; Latest Edition.

1.4 DEFINITIONS

- A. Weeds: Include Dandelion, Jimsonweed, Quackgrass, Horsetail, Morning Glory, Rush Grass, Mustard, Lambsquarter, Chickweed, Cress, Crabgrass, Canadian Thistle, Nutgrass, Poison Oak, Blackberry, Tansy Ragwort, Johnson Grass, Poison Ivy, Nut Sedge, Nimble Will, Bindweed, Bent Grass, Wild Garlic, Perennial Sorrel, and Brome Grass.
- B. Plants: Living trees, plants and ground cover specified in the Section, and described in ANSI Z60.1.

1.5 QUALITY ASSURANCE

- A. Nursery Qualifications: Company specializing in growing and cultivating plants with three years documented experience.
- B. Installer Qualifications: Company specializing in installing and planting plant material with three years experience. Adequate numbers of skilled workmen trained and experienced in the work and familiar with the requirements and methods for the performance of the work. On-site superintendent knowledgeable of horticultural practices at all times.
- C. Tree Pruning: NAA – Pruning Standards for Shade Trees.
- D. Maintenance Services: Performed by installer.

1.6 REGULATORY REQUIREMENTS

- A. Comply with regulatory agencies for fertilizer and herbicide composition.
- B. Provide certificate of compliance from authority having jurisdiction indicating approval of plants, fertilizer and herbicide mixture.
- C. Applicable sections of Alabama Department of Transportation Standard Specifications for Highway Construction, Latest Edition.
- D. Plant Materials: Described by ASTM Z60.1; free of disease or hazardous insects.

1.7 SUBMITTALS

- A. Maintenance Schedule with monthly maintenance guidelines.
- B. For plant materials not pre-selected and tagged, submit color photographs of representative plants with materials unit price list.
- C. Substitutions not permitted unless proof is submitted to the Engineer's satisfaction that the material is not available as specified. Acceptance or rejection of substitute plant material will be issued in writing by the Engineer.

1.8 INSPECTION AND APPROVAL

- A. The selection of all plant material is subject to approval by the Engineer and owner at any time in the field or nursery prior to digging.
- B. Waterproof Labels indicating correct botanical names as specified shall be attached to at least one plant, bundle or container of each plant variety.
- C. Rejected materials or materials not conforming to the specified requirements shall be immediately removed from the site, and promptly replaced at no additional cost to the owner.

1.9 DELIVERY, STORAGE, AND HANDLING

- A. Deliver fertilizer in Manufacturer's original waterproof bags showing weight, chemical analysis, and name of manufacturer.
- B. Delivery and storage of plant materials shall conform to Alabama Department of Transportation Standard Specification 860.06 ©.
- C. Protect and maintain plant life until planted.
- D. Deliver plant materials after preparations for planting have been completed and approved.

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- E. Deliver plant life materials immediately prior to placement. Keep plants moist.
- F. Do not prune prior to delivery.
- G. Do not bend or bind trees in a manner that will damage health, vigor, or natural shape.
- H. Coordinate a secure and safe staging area with the general contractor.
- I. Maintain roads, paving and structures adjacent to planting operations in a clean and neat manner, free of mud, debris, dust and obstructions at all times.
- J. Provide protective covering during delivery of plant material. Contractor responsible not only for safe transport of plants, but also their condition upon arrival.
- K. Do not flush debris into sewers or drainage ditches.

1.10 ENVIRONMENTAL REQUIREMENTS

- A. Do not install plant life when ambient temperatures may drop below 35 degrees F (2 degrees C) or rise above 90 degrees F (32 degrees C).
- B. Do not install plant life when wind velocity exceeds 30 mph (48 k/hr).

1.11 WARRANTY

- A. Warranty: Included coverage for one continuous growing season; replace dead or unhealthy plants at no additional cost to the owner.
- B. Replacements: Plants of same size and species as specified, planted in the next growing season, with a new warranty commencing on date of replacement.

1.12 MAINTENANCE SERVICE

- A. Maintain plant life immediately after placement. Continue maintenance until termination of warranty period.
- B. Maintenance to include:
 - 1. Cultivation and weeding plant beds and tree pits.
 - 2. Applying herbicides for weed control in accordance with manufacturer's instruction. Remedy damage resulting from use of herbicides.
 - 3. Remedy damage from use of insecticides.
 - 4. Pruning, including removal of dead or broken branches, and treatment of pruned areas or other wounds.
 - 5. Disease control.
 - 6. Maintaining wrapping, guys, turnbuckles, and stakes. Adjust turnbuckles to keep guy wires tight. Repair or replace accessories when required.
 - 7. Replacement of mulch.

2.0 PRODUCTS

2.1 PLANT MATERIAL

- A. Trees, shrubs and groundcover are listed on the Plant Schedule in the Drawings.
- B. All plants shall conform to the standards set forth in American Standard for Nursery Stock.
- C. The minimum acceptable sizes of plant material shall be measured before pruning, per general body mass of plant, and not from branch tip to tip. Plants which do not possess an overall balance will be rejected. Plants used where symmetry is required shall be matched as closely as possible.
- D. Caliper measurements shall be taken on trunk 6 inches above natural ground level up to and including four-inch caliper size; 12 inches above ground level for larger sizes.
- E. All plant material shall be nursery grown unless otherwise specified, and shall have normal, well-developed branches and vigorous root systems, free from defects, decay, disfigurements, sun scald, bark abrasions, plant diseases, insect pest or eggs, borers, and any and all infestations.
- F. Supply certificates of inspection for disease and insect infestation for each plant material, as required by law. Certificates of source of origin shall be filled with the Engineer prior to acceptance of plant material.
- G. Rejection of plant material may include but not be limited to the following reasons: Lack compactness or appropriate proportion; cut back from larger stock to meet specifications; weak or sparse growth; undersized, cracked or broken root balls; plants that are not firmly rooted within the root ball; B&B material root pruned within the last two years, and root bound plants.
- H. All trees are to be sourced by the contractor at any of the approved nurseries listed, or approved equal. If Engineer tags trees at cost of owner, contractor should anticipate accompanying the Engineer but is not required to do so.
- I. Grafted plant material will not be accepted.

2.2 SOIL MATERIALS

- A. Topsoil shall be supplied and placed by the landscape contractor.
- B. Topsoil shall be a fertile, loamy, friable sandy loam, typical for locality, containing two to five percent by weight organic matter, free from subsoil, refuse, roots, heavy or stiff clay, hardpan, stones larger than one inch, noxious seeds, litter, and other deleterious substances; suitable for the germination of seeds and the support of vegetative growth. All extraneous matter measuring 1.5 inches or greater in any direction shall be removed from topsoil.

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- C. The PH value should be between 5.0 to 7.0. Should regenerative materials be present in the soil, contractor shall eradicate and remove all such surface and root growth, which may appear in the imported material within one year of acceptance of the material.
- D. Soil Texture with the following particle size distribution:
 - 1. Organic Matter – 5% to 10%
 - 2. Gravel – less than 10%
 - 3. Coarse Sand – 50% to 70%
 - 4. Silt – less than 20%
 - 5. Clay – 20% to 30%
- E. Sample and test one soil sample per 500 CY of material required. Tests shall be performed by soil testing laboratory approved in advance by Engineer. Submit soil test reports for approval prior to transport of topsoil. Topsoil shall be amended as recommended in the soil test report in order to meet specified characteristics.
- F. Provide a minimum of one soil sample with the accompanying soil test report per 500 CY of material required from samples obtained randomly throughout the source field location or stock pile.

2.3 SOIL AMENDMENT MATERIALS

- A. Fertilizer: Containing 50 percent of the elements derived from organic sources; of proportion necessary to eliminate any deficiencies of topsoil, as indicated in analysis. Fertilizer shall be uniform in composition, dry and free flowing, supplied to site in the original, un-opened container, bearing the Manufacturer's guaranteed analysis. Fertilizer shall not be stored in direct contact with the ground.
- B. Acceptable fertilizer manufacturers: Stan-Green – Nursery Special, Scott's, or approved equal.
- C. Decomposed organic matter: Well rotted organic matter of uniform composition, containing no weeds, grasses, plants, or their seeds, nor any substance harmful to plant.
- D. Lime: Ground limestone, dolomite type, minimum 95 percent carbonates. Apply at a rate specified in soil test report.
- E. Water: Clean, fresh, and free of substances or matter which could inhibit vigorous growth of plants.
- F. Coarse Sand: Fine aggregate meeting ASTM C-33; free of substances harmful to plant growth.

2.4 PLANTING MIX

- A. Planting mix amended as per laboratory recommendations. Planting mixture used in planting beds and tree pits in the following proportions: 4 parts by volume topsoil as specified: 1 part by volume expanded shale; 2 parts by volume decomposed organic matter, 2 parts by volume sand.
- B. Add 3 lbs. 12-6-6 fertilizer to each cubic yard of planting mix during the mixing process for all plants.

2.5 MULCH MATERIALS

- A. See General Planting Notes for specified mulch type:
 - 1. Three-inch depth Pine bark mulch, shredded and sifted as necessary to remove any pieces larger than six inches in length, and to remove any excess dirt. Pine bark mulch shall be free of noxious weed, fire ants, Japanese Beetles, and Fringed Beetles.
 - 2. Two-inch depth Pine straw mulch, clean and free of debris.

2.6 ACCESSORIES

- A. Accessories: as specified in Section 02900 Landscaping
- B. Wrapping Materials: Burlap. Balled and burlap materials are to be wrapped with organic burlap wrapping only.
- C. Stakes: Pressure treated pine, pointed end.
- D. Cable #10 or #12 gauge galvanized, double twisted strand, Eye Bolts and 1/4-inch Galvanized Turnbuckles: Non-corrosive, of sufficient strength to withstand wind pressure and resulting movement of plant life.
- E. Plant Protectors: Min. 1/2-inch reinforced Rubber hose over cable to protect plant stems, trunks, and branches, black in color.
- F. Pea gravel: Dark brown pea gravel, maximum one-inch diameter.
- G. Tree pit drainage materials: Washed, crushed No. 57 limestone for drainage fill. Filter fabric: acceptable products, SUPAC 5-P. Manufacturer: Phillips Fibers Corporation or approved equal. Drainage tubing: four-inch diameter corrugated polyethylene drainage tubing, wrapped in filter fabric.
- H. Herbicide: Chemical pre-emergent, approved. Chemical contact spray, Roundup or approved equal.
- I. Edging: See General Planting Notes for one of the following types.
 - 1. Galvanized Steel Edging, four-inch height with 15-inch stakes. Border Line by Border Concepts, or approved equal.

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2. Trench edge, see Plant Details.

3.0 EXECUTION

3.1 GENERAL MAINTENANCE

- A. Provide all labor, products, equipment and services necessary to maintain landscape work.
- B. Remove dead wood and sucker growth as it becomes evident. Remove other living portions of plants only at the direction of the Engineer. Do not top or remove terminal growth point or leader of any plant.
- C. Prune trees to NAA Class 1-Fine Pruning
- D. Monitor owner's automatic irrigation system and schedule for proper watering of all plant material.
- E. Water landscape areas not covered by automatic irrigation system as necessary to maintain proper moisture level.
- F. Check trees monthly to determine if root ball is well drained. Take permanent corrective measures for proper drainage.
- G. Fertilize plant material using the following guide:
 - 1. Mid March application of 23-3-3 (slow release nitrogen)
 - 2. April 1 application of iron chelate
 - 3. Mid June application of 12-6-6
 - 4. August 1 application of 15-0-15
- H. Replace annual plantings to maintain blooming condition. Blooming plants shall be in bloom at the time of planting and shall be replaced as necessary throughout specified maintenance period to maintain blooming condition.
- I. Control growth of weeds. Apply herbicides in accordance with manufacturer's instructions. Two applications (Spring and Fall) of chemical pre-emergent spray, approved. Two applications during growing season of chemical contact spray, approved. Two days per month manual weeding (by hand) during the period from March 1 to September 30, remove all visible weeds.
- J. Observe all applicable laws, statutes, and ordinances regulating the purchase, use application and licensing for all pesticides.
- K. Keep planting areas neat and uniformly mulched to specified depth on a continuous basis. In addition, completely replenish mulch in all planting areas one time (during the last month of the one-year guarantee period).
- L. Maintain plants in their stable, upright position at the proper grade by straightening and tightening staking and guying apparatus.
- M. Keep all planting areas neat, weeded and uniformly mulched on a continuous basis.
- N. Clean up adjacent walks and pavement where littered as a result of maintenance operations.
- O. Maintain all plants in a pest and disease-free condition by approved means.
- P. Mowing: Mow grass at regular intervals to maintain a height of 1.5-2 inches. Never remove more than 1/3 of leaf blade at a time. Seeded and sodded lawns should have at least one mowing before receiving Substantial Completion.
- Q. Neatly trim edges and hand clip where necessary.
- R. Immediately remove clippings after mowing and trimming.
- S. If thatch exceeds 1/2-inch depth, use a vertical mower, dethatcher or other suitable equipment to remove excess buildup.
- T. Resodding: Rework and resod areas which fail to show a uniform stand of grass. Perform work with the same sod type until all areas are covered with a uniform stand of grass.
- U. Reseeding: Rework and reseed areas which fail to show a uniform stand of grass. Perform work with the same seed type until all areas are covered with a uniform stand of grass.

3.2 PLANT SUPPORT

- A. Brace plants vertically with plant protector wrapped guy wires and stakes to the following:
 - 1. Tree Caliper: 1 inch (25 mm); Tree Support Method: 1 stake with one tie.
 - 2. Tree Caliper: 1 – 2 inches (25 – 50 mm); Tree Support Method: 2 stakes with two ties
 - 3. Tree Caliper: 2 – 4 inches (50 –100mm); Tree Support Method: 3 guy wires with eye bolts and turn buckles

4.0 ACCEPTANCE

4.1 MONTHLY INSPECTION

- A. Submit a request for inspection of Maintenance work to the Engineer once a month April through September and every two months October through March.
- B. Review the previous month's work jointly with Engineer.
- C. Submit a written log of fertilizer, herbicide, and pesticide applications, with each Application for Payment. This log will be a complete account of each application performed within the month covered by that Application for Payment including date, time, weather conditions and specific purpose and product of each application.

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4.2 FINAL INSPECTION AND ACCEPTANCE

- A. At the end of the maintenance period, submit request for inspection for Final Acceptance to the Engineer at least one week prior to anticipated date of inspection.
- B. Submit Maintenance Manual (3 copies) for Owner's information and Engineer's approval, containing full details for care and maintenance of landscape work, personnel and procedures, and monthly schedule of maintenance.
- C. Upon completion by the Contractor of all required repairs and replacements, the Engineer will confirm the date of Final Acceptance of the Work.

END OF SECTION 02970

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SECTION 03100 - CONCRETE FORMWORK

1.0 GENERAL

1.1 RELATED REQUIREMENTS

A. Section 03300 - Portland Cement Concrete

1.2 DESCRIPTION

A. The Contractor shall provide all labor, materials, and equipment for construction of forms necessary to complete all concrete work required.

1.3 MEASUREMENT

A. There shall be no separate measurement for Concrete Formwork.

1.4 PAYMENT

A. There shall be no direct payment for Concrete Formwork.

2.0 PRODUCTS

2.1 MATERIALS

A. Layout:

1. The dimensions shown on the plans should be checked against dimensions furnished by the equipment suppliers and enclosure manufacturers. Forms shall be accurately positioned to facilitate all fabrications.

B. Forms:

1. All forms for surfaces to remain exposed and interior walls shall be lined with waterproof plywood or hardboard with a minimum of joints. Forms shall be carefully built with planed surfaces and tight joints. Surfaces shall be oiled well with non-staining oil.
2. Forms shall be built mortar tight and of material sufficiently rigid to prevent bulging between supports and shall be set and maintained to the lines designated until the concrete is sufficiently hardened to permit form removal. During the elapsed time between the building of the forms and the placing of concrete, the forms shall be maintained in a manner to prevent warping or shrinking.
3. If the forms bulge or sag at any point when the concrete is placed in them, that portion of the concrete causing distortion shall be removed immediately and the forms properly repaired and strengthened before continuing work. No forming material shall be left in place upon completion of work.
4. Forms shall be designed for the pressure exerted by a liquid weighing 150 pounds per cubic foot for vertical loads and not less than 140 pounds per cubic foot for horizontal pressure. The rate of placing the concrete shall be taken into consideration in determining the depth of the equivalent liquid for horizontal loads. An additional live load of 50 pounds per square foot shall be allowed on horizontal surfaces.
5. All forms shall be so constructed as to permit removal without damage to the concrete.
6. Metal or wooden spreaders, which are separate from the forms, shall be entirely removed as the concrete is being placed. Pipe spreaders will not be permitted.
7. Forms or form lumber to be reused shall be maintained clean and in good condition as to accuracy, shape, strength, rigidity, tightness and smoothness of surface. Any lumber which is split, warped, bulged, marred, or has defects that may produce work inferior to that resulting from using new materials shall not be reused.
8. All form surfaces shall be wetted prior to the placement of concrete. Wetting of wood forms and adjacent concrete shall last at least 4 hours. Form oil is not to be used except on lined forms as previously specified.
9. When concrete is placed, the formed volume shall be clean from all chips, dirt, sawdust and other extraneous matter. This shall be accomplished by sweeping, washing with water, or blowing with oil free compressed air.

3.0 EXECUTION

3.1 REMOVAL OF FORMS

- A. Concrete forms shall not be removed until the concrete has attained the necessary strength to support its own weight, construction live loads, and any other loads to which it is subject after removal of forms. All forms shall remain in place for a minimum of a 24-hour period after concrete has been placed.
- B. Forms supporting beams or slabs shall remain in place until the design strength of the concrete is reflected in the cylinder breaks.
- C. A competent and experienced foreman shall be in charge of the removal of forms at all times. At no time shall more men be engaged in the striking of forms than he can fully direct and supervise.

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- D. No patching of honeycombed areas of concrete work shall be done until concrete has been examined by the Engineers.
- E. All patching of the holes shall be performed prior to payment of concrete work.

END OF SECTION 03100

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SECTION 03200 - CONCRETE REINFORCEMENT

1.0 GENERAL

1.1 RELATED WORK

- A. DIVISION 1
- B. Section 03300 - Portland Cement Concrete
- C. Section 03100 - Concrete Formwork

1.2 SCOPE

- A. The Contractor shall provide all labor, materials, services, supervision, transportation and equipment necessary to supply and place all reinforcing steel meeting the requirements of this Section.

1.3 REFERENCES

- A. ALDOT Standard Specifications for Highway Construction, Latest Edition.

1.4 SUBMITTALS

- A. Shop Drawings
 - 1. Prior to fabrication, the Contractor shall submit for review and approval, detailed shop drawings showing the complete layout, bar sizes, spacing, spacing devices, splices, bends and shapes, and arrangements of reinforcing steel and support devices therefor proposed for installation. Include sections and details as required.
 - 2. The Contractor shall also submit shop billings indicating the markings, size, weights, etc., for reinforcing steel.

1.5 QUALITY ASSURANCE

- A. Perform all concrete reinforcing work in accordance with ALDOT Standard Specifications for Highway Construction, Latest Edition, Section 502 and all articles referenced therein.

1.6 QUALIFICATIONS

- A. Steel reinforcements shall be detailed and shop drawings shall be produced by experienced, trained and skilled detailers, who are completely familiar with all requirements and recommendations of all applicable ALDOT Standard Specifications for Highway Construction, Latest Edition, Section 502 and Section 835 along with all related articles.

1.7 STORAGE

- A. Steel reinforcement shall be stored above the surface of the ground upon platforms, skids, or other supports and shall be protected as far as practical from mechanical injury and surface deterioration caused by exposure to conditions producing rust. When placed in work, it shall be free from dirt, scale, dust, paint, oil, and other foreign material.

1.8 MEASUREMENT

- A. No separate measurement shall be made for reinforcement steel.

1.9 PAYMENT

- A. Payment for reinforcing steel in the Curb Inlets, Junction Boxes, Manholes, Headwalls, Thrust Blocks, etc. shall be included in the cost of the pay item being installed. There shall be no direct payment for any reinforcing steel.

2.0 PRODUCTS

2.1 MATERIALS

- A. Reinforcing bars shall be intermediate grade open hearth, new steel, Grade 60, deformed billet steel bars conforming to the Standard Specifications for Highway Construction, Latest Edition, Division 800, Materials. Specific reference is made to Section 835, Steel Reinforcement.

2.2 FABRICATION

- A. Conform to ALDOT Standard Specifications for Highway Construction Section 502 and Section 835 along with all other related Articles referenced therein.
- B. Bending shall be done in the shop except when otherwise permitted by the Engineer. Steel reinforcement shall not be bent or straightened in a manner which will injure the material.
- C. Bends shall be true to the shapes indicated. Unless otherwise shown on the Plans, bends for stirrups and ties shall be made around a pin having a diameter of not less than 5 times the least dimension of the bar.
- D. Reinforcing bars bent in the field shall be bent around a pin not less than six (6) times the diameter of the bar. Reinforcing partially embedded in concrete or mortar in dowel holes shall not be field bent, except as permitted by the Engineer.
- E. Bundle reinforcement and tag with suitable identification to facilitate sorting and placing, and transport and store at site so as not to damage material. Keep a supply of approved reinforcement at site to avoid delays.

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- F. Except as shown on the Plans, bars shall not be spliced without permission of the Engineer. Splices not shown shall be located at points of minimum stress and shall be reviewed by the Engineer. Stagger splices.

3.0 CONSTRUCTION REQUIREMENTS

- A. Reinforcing Steel shall be handled and installed in accordance with ALDOT Standard Specifications for Highway Construction, Latest Edition, Section 502.03 and all articles referenced therein.
- B. Verify placement of Work of all other trades which must place work prior to reinforcement.
- C. Turn ends of tie wires away from forms and concrete surfaces.
- D. Reinforcing bars shall be located and secured tight to the corners of stirrups and ties.
- E. Tie splices securely.
- F. Support and tie reinforcing steel in design position to prevent displacement from construction load or concrete placement.

3.1 FIELD QUALITY CONTROL

- A. Notify Engineer when concrete reinforcing steel placement is nearing completion for review. Give a minimum of twenty-four (24) hours notice.
- B. Before concrete is placed, carefully check reinforcing, remove all tags, and all bars displaced or bent during the course of the Work shall be fully restored to their intended shape and position.
- C. At each location during concrete placing, assign a competent mechanic to inspect reinforcement and maintain bars and mesh in correct position.

END OF SECTION 03200

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SECTION 03300 - PORTLAND CEMENT CONCRETE

1.0 GENERAL

1.1 RELATED WORK

- A. Section 03100 - Concrete Formwork
- B. Section 03200 - Concrete Reinforcement
- C. Section 03345 - Concrete Finishing

1.2 SCOPE

- A. The Contractor shall provide all labor, material, services, supervision, transportation and equipment necessary for plain and reinforced concrete work as shown on the drawings and hereinafter specified.
- B. To insure inclusion of all wall castings, conduits, anchor bolts, etc., the Contractor shall notify all other Contractors, Subcontractors, Manufacturers' Representatives and the Engineer in advance of his intentions to place any particular portion of the concrete work. He shall further cooperate with them in the coordination of the various phases of the work.
- C. All concrete work shall meet the applicable portions of ALDOT Standard Specifications for Highway Construction, Latest Edition Division 500 and all articles that are referenced therein.
- D. Include all concrete and related work shown or specified. Concrete work included in other Sections of the Specifications that is not specifically described, shall comply with the requirements of this Section.

1.3 QUALITY ASSURANCE

- A. Except as modified or supplemented by these specifications, the ALDOT Standard Specifications for Highway Construction, Latest Edition shall govern all Work in this section.
- B. The mixing, placing and curing of all concrete shall be executed under the supervision of an experienced foreman. The Contractor shall have at least one foreman at each location where concrete is being placed to assure that placement, puddling, and spading of the concrete is in accordance with these Specifications or as directed by the Engineer.
- C. Only highly skilled, thoroughly trained, fully competent and experienced workmen shall perform the work of this section.
- D. Acquire cement and aggregate from same source for all work.

1.4 REFERENCES

- A. All applicable ALDOT Standard Specifications for Highway Construction, Latest Edition sections.

1.5 TESTING

- A. Inspection, testing and analysis will be performed by Engineer's assigned testing laboratory.
- B. Contractor shall provide free access to Work and cooperate with Testing Laboratory. Contractor shall provide samples of concrete to Testing Laboratory without charge.
- C. Contractor shall submit proposed mix of each class of concrete to Engineer's testing laboratory for review and to Engineer prior to commencement of Work. Testing Laboratory shall control concrete mix. Advise laboratory of material sources.
- D. Tests of cement and aggregates may be performed to ensure conformance with requirements stated herein.
- E. Three (3) concrete test cylinders shall be taken for every 50 cubic yards or fraction thereof of each class of concrete, or at least 3 cylinders each day concrete is poured.
- F. One (1) additional test cylinder will be taken during cold weather concreting, and be cured on job site under same conditions as the concrete it represents.
- G. One (1) slump test shall be taken for each set of test cylinders taken. The Engineer reserves the right to perform a slump test on every concrete delivery vehicle.
- H. Material not in full conformance with the specifications shall be reported immediately by the Testing Laboratory to the Engineer. Non-conforming material shall not be used.

1.6 MEASUREMENT

- A. Measurement shall be made for Portland Cement Concrete in sidewalks and driveways per square yard.
- B. There shall be no measurement made for Portland Cement Concrete trust blocks, concrete collars, etc.

1.7 PAYMENT

- A. Payment for Portland Cement Concrete in sidewalks and driveways shall be made per square yard.
- B. Cost of the Concrete in the Combination Curb and Gutter shall be included in the cost of the pay item.

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- C. Cost of the Concrete in Curb Inlets, Junction Boxes, Manholes, Headwalls, Valves and Valve Collars, Thrust Blocks, Bollards, Fittings, etc. shall be included in the cost of the pay item being installed.
- D. There shall be no direct pay for thrust blocks. Thrust blocks, including all associated work and required tie-rods, shall be included in the cost of the pay item being installed.

2.0 PRODUCTS

2.1 MATERIALS

- A. Cement shall be Portland Cement of American manufacture, conforming to the Standard Specifications for Portland Cement, Type I or II, ASTM C150, low alkali.
- B. The use of flyash in the concrete mixture will be permitted only with approval of the Engineer. Fly ash shall consist of finely divided residue or ash that remains after burning finely pulverized coal at high temperatures and shall meet the requirements of AASHTO M 295. The Contractor will be permitted partial substitution on a pound for pound basis of fly ash for Portland Cement Type I or II in concrete mixes up to a maximum of 15% for structural concrete and a maximum of 20% for minor structure concrete.
- C. Coarse aggregates shall be clean, uncoated processed gravel conforming to the Standard Specifications for Concrete Aggregate, ASTM C33, size No. 467, 57 or 67.
- D. Store fine and coarse aggregate separately. Aggregates shall not be contaminated with salt water.
- E. Water used in making mortar or concrete shall be clean and free from oil, alkali, sugar, vegetable matter or other deleterious substances; potable.
- F. Neither concrete nor any admixtures, curing compounds, etc. shall contain calcium chloride.
- G. Admixtures shall not be used unless specifically approved in writing by the Engineer.
- H. All grout for equipment, structural foundations and all other uses except in masonry shall be high strength, non shrink, non-metallic, bleed free, 7000 PSI at 28 days (as per ASTM C109) premixed grout, Master Flow 713, as manufactured by Master Builders Company or approved equal. Preparation and application of grout shall be in accordance with manufacturer's directions.
- I. Admixtures: ASTM C-494 Type A water reducing. Mix in accordance with manufacturer's directions. Obtain permission of the Engineer prior to using any admixtures. Calcium chloride shall not be used.

2.2 MIXES

- A. Ready-mix Concrete
 - 1. Conform to applicable portions of ALDOT Standard Specifications for Highway Construction, Latest Edition.
 - 2. Mix shall be proportioned as specified in Section 501 of ALDOT Standard Specifications for Highway Construction, Latest Edition, for Concrete Class Type A-1a.
 - 3. The proportions selected shall be such as to produce a plastic, workable and durable mix that will enter readily into the corners and angles of forms and around reinforcement with the methods of placing employed on the work, but without permitting the materials to segregate, or free water to collect on the surface. Concrete shall be designed using the minimum quantity of water necessary.
 - 4. If approved, the schedule of deliveries of concrete to the job and the method of distribution in the forms shall be continually reviewed by the Engineer.
 - 5. Consistency: Adjust quantity of water so concrete does not exceed maximum slumps specified; use minimum necessary for workability required by the part of the structure being cast. Measure consistency of concrete in accordance with ASTM C143.
- B. Mixing
 - 1. Unless specifically authorized by the Engineer, all concrete mixing shall be done in a batch mixer approved by the Engineer, of a type which will insure uniform distribution of the materials throughout the mix and which will insure a uniformly colored and homogeneous product. Retempering of concrete shall not be permitted.

2.3 GROUT

- A. General construction of grout shall be non-shrink, expanding type, and shall have the following characteristics: non-ferrous; non-staining; non-bleeding; high density; and not containing gas-generating agents.
- B. The compressive strength at 28 days of grout mix of 50 pounds with 5¾ quarts of water shall not be less than 4,500 psi (ASTM C109-86). The mix shall retain high compressive strength when containing coarse aggregate crushed stone in size range ¼" to ¾". General construction grout shall be used for closing in box-outs, filling holes in concrete, patching walls, etc.
- C. All prepared grout mixes shall be used in strict accordance with the manufacturer's recommendations.

3.0 EXECUTION

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3.1

PLACING CONCRETE

- A. Notify Engineer 48 hours before placing concrete.
- B. Construction Loading: ACI 347
- C. Place concrete in compliance with applicable Sections of ALDOT Standard Specifications for Highway Construction, Latest Edition and as herein specified. Deposit continuously or in layers of such thickness that no concrete will be placed on hardened concrete in a manner to cause seams or planes of weakness.
- D. Before any concrete is deposited, all debris and water shall be removed from the space to be occupied by the concrete; all metal reinforcement shall be placed in its proper location and shall be clean; all inserts, hangers, metal ties, anchor bolts, plates, etc., shall be properly located in cooperation with other trades and secured in position before concrete is placed; and all forms shall be thoroughly wetted. Form work and reinforcement shall be inspected and approved by the Engineer immediately before placing concrete. No concrete shall be placed until all reinforcing steel is securely tied in its correct position.
- E. Concrete shall be handled from the mixer to the place of deposit as rapidly as possible without segregation or separation of the materials or displacement of the reinforcement. It shall be deposited as near as possible to its final position in the forms to minimize segregation due to handling and flowing, and shall be so deposited as to maintain, until completion of the unit, a plastic surface approximately horizontal. Concrete shall not be dropped at a height greater than three (3') feet except where suitable equipment is provided to prevent segregation. Forms for walls or other thin sections of considerable height shall be provided with openings or other devices to permit the concrete to be placed in a manner avoiding the accumulation of concrete on the forms or metal reinforcement. Under no circumstances shall partially hardened concrete be deposited in the work. Chutes, if used, shall be subject to approval of the Engineer.
- F. Ensure reinforcement, inserts, embedded parts, formed expansion and contraction joints are properly placed, held securely and not disturbed during concrete placement. Embedded Items: Ensure completion of installation of work built into concrete such as sleeves, anchor bolts, wood nailers, reglets, frames and sleeves for piping conduit, etc.. Provide facilities and supervision required for installation of inserts specified under other sections and perform cutting and reinforcing of forms required to accommodate them. Do not place any concrete until all inserted items are installed in their proper locations, secured according to approved shop drawings and setting plans. Furnish ties and supports necessary to keep embedded items in place when concrete is placed.
- G. All concrete shall be deposited continuously, as rapidly as practicable to pre-determined pour limits.
- H. Pumped Concrete:
 - 1. General: Do not use aluminum or aluminum lined pipe. Prevent concrete from contacting aluminum fittings.
 - 2. Mix: Do not add more water to mix. Check that mix design entered on delivery ticket complies with that ordered. Check slump at end of hose.
 - 3. Pumps: Use only piston type pumps. Insure they are reversible. Make a standby pump available of no less capacity than that in use for operation at the job within one hour's notice.
 - 4. Cylinder test sample shall be taken at end of hose.
- I. Foreign matter of any kind shall not be permitted to accumulate inside the forms, and openings in forms necessary for the removal of same shall be provided.
- J. Cement mortar shall not be permitted to coat reinforcement prior to final embedment.
- K. Excessive honeycomb or embedded debris in concrete is not acceptable.
- L. Maintain minimum concrete cover around reinforcing.
- M. When pouring against earth, lightly dampen earth 24 hours in advance of concrete placement; but do not muddy. Reroll where necessary for smoothness and remove all loose material.

3.2

JOINTS IN CONCRETE

- A. Joints in concrete shall be placed and designed as approved by the Engineer
- B. Except where construction joints are detailed differently on the plans, they shall be square and normal to the forms. No joints shall be nearer than 24 bar diameters from splices in reinforcing.
- C. Before joining plastic concrete to concrete that has already set, the surface of the concrete in place shall be roughened with 1/4" difference between high and low points, shall be free from all loose material, laitance, dirt or foreign materials, shall be washed and scrubbed clean with stiff brooms, shall be thoroughly drenched with water until saturated, and shall be kept wet until the plastic concrete has been placed. Immediately prior to the placing of additional concrete, all forms shall be drawn tight against the concrete in place, and the surface of the concrete in place shall be flushed with a coating of an approved bonding compound.

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- D. Where new concrete is to be poured adjacent to old concrete structures, the existing concrete surface is to be scarified and sandblasted. Also prior to placing new concrete, the bonding area shall receive a coat of bonding agent applied per manufacturer's recommendations.
- E. The forms shall provide a perfect alignment for exposed surfaces between the previously placed concrete and the new placement. They shall be tight enough to prevent mortar form streaking the exposed surfaces of previously places concrete.
- F. Any penetration of the walls otherwise not shown on the Plans shall be approved in writing by the Engineer.

3.3 COMPACTION OF CONCRETE

- A. Conform to applicable Sections of ALDOT Standard Specifications for Highway Construction , Latest Edition.
- B. All concrete shall be thoroughly compacted to force out all air pockets and voids during and immediately after depositing, thoroughly worked around reinforcement, embedded fixtures, and into the corners of forms and the mortar flushed to the surface by continuous working with concrete spading implements and/or high frequency mechanical vibrators of an approved type.
- C. If vibrators are used, the consistency of the mixture and the period of vibration shall be such that the resulting concrete is free from segregation, honeycomb, and accumulation of water or laitance. If vibration is used, the maximum permissible slump shall be adjusted by the testing laboratory to meet this condition. The amount of mixing water used and the proportion of sand to gravel shall be the least which will produce uniformly dense concrete free from aggregate pockets and honeycomb.
- D. Mechanical vibrators shall have a minimum frequency of 7000 revolutions per minute and shall be operated by experienced competent workmen. Over vibrating and use of vibrators to transport concrete within forms shall not be allowed. Vibrators shall be inserted and withdrawn at many points, at uniformly spaced locations from 18 to 30 inches apart. At each insertion, the duration shall be sufficient to consolidate the concrete but not sufficient to cause any segregation, generally from 5 to 15 seconds duration. Limit duration to the minimum time possible. A spare vibrator shall be kept on the job site during all concrete placing operations.
- E. Tapping or other external vibration of forms shall not be permitted.

3.4 CONCRETE IN INCLEMENT WEATHER

- A. In threatening weather which may result in conditions adversely affecting the quality of the concrete to be placed, the Engineer may order the postponement of concerning operations. Where work has been started and changes in weather conditions require protective measures, the Contractor shall furnish adequate measure to protect the concrete from rainfall or freezing temperatures during entire duration of cure period.
- B. Concrete, when deposited, shall have a temperature not below fifty (50) degrees F., nor above ninety (90) degrees F. No concrete shall be placed when the air temperature is below 40 degrees F or when the temperature is expected to fall below 40 degrees F before placed concrete is 72 hours old.
- C. The Contractor is responsible for the protection of concrete placed under all weather conditions. Permission given by the Engineer to place concrete during rain or freezing weather will not relieve the Contractor of the responsibility for satisfactory results. Concrete placed under such conditions proving unsatisfactory shall be removed and replaced.

3.5 CONCRETE FINISHING

- A. All exposed concrete surfaces, except floors and stair treads, shall immediately, upon removal of forms, be freed of all form marks, fins or projections and have all honeycombs, hollows, tie holes and bug holes filled with 1:2 cement mortar. Care shall be taken that patches exactly match the color of the previously poured concrete. A bonding agent shall be applied to all patched areas.
- B. During the process of conditioning the completed structure for final acceptance, all exterior exposed concrete surfaces above grade shall be cleaned from drip marks and discolorations, washed down and broomed so that the entire structure is left with a neat, clean and uniform finish, texture, and color.
- C. All concrete sidewalks, landings, and exterior walking surfaces, shall have a light broom textured finish after floating.

3.6 TESTING MATERIALS AND CONCRETE

- A. The Engineer shall appoint and Owner will pay for the services of a competent testing laboratory of recognized standing for the testing of concrete and other materials where testing is called for in the Specifications.
- B. The Contractor shall furnish, without additional compensation, samples of the various materials and the concrete mix for laboratory testing as required by the Laboratory or Engineer.
- C. The selection of the testing laboratory by the Engineer shall be understood as in no way relieving the Contractor of his responsibility for satisfactory performance of the Contract. Excluding written

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protest by the Contractor in advance of processing or use of materials, services of the testing laboratory shall be understood as constituting full acceptance by and approval of the Contractor.

3.7 PROTECTION AND CURING

- A. Conform to applicable Sections of ALDOT Standard Specifications for Highway Construction , Latest Edition.
- B. All exposed concrete surfaces shall be protected from rapid or premature drying, and freshly placed concrete shall be protected against washing by rain.
- C. Do not allow any walking on or loading of any kind on concrete until at least 24 hours after placement.
- D. After concrete has taken its initial set care shall be exercised to avoid jarring forms or placing any stress or strain on forms and concrete.

3.8 EDGES AND CORNERS

- A. 3/4" x 45 degree Chamfer strips shall be placed in forms to bevel all salient edges and corners, except the top edges of walls and slabs which are to be tooled and edges which are to be buried.
- B. Equipment bases shall have formed beveled salient edges for all vertical and horizontal corners unless specifically indicated otherwise on the drawings. Unless otherwise noted, bevels shall be 3/4 inch wide.

3.9 CLEANING

- A. Cleaning and wash out of concrete trucks on project site is not permitted unless a designated area is specifically approved in writing by Engineer. Any waste concrete shall be removed from the site. Waste concrete shall not be buried below site fill.

3.10 COMPLETION

- A. Fill in holes and openings left in concrete for the passage of Work of other trades after their Work is in place. Mix, place, and cure to blend with in-place construction. Provide other miscellaneous filling required to complete Work.
- B. Repair or replace concrete not conforming to required lines, details and elevations or structural requirements.
- C. Repair or replace concrete not properly placed resulting in excessive honeycomb and other defects. Do not patch, fill, touch-up, repair or replace exposed architectural concrete except upon express direction of Engineer for each individual area.
- D. Dampen all areas to receive patching.

END OF SECTION 03300

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SECTION 03345 - CONCRETE FINISHING

1.0 GENERAL

1.1 RELATED REQUIREMENTS

- A. Section 03300 - Portland Cement Concrete

1.2 SCOPE

- A. All surfaces exposed to view shall receive a smooth form finish followed by a grout cleaned finish unless otherwise specified.
- B. All floors except sidewalks, landings and stair treads shall receive a floated finish followed by a troweled finish.
- C. All sidewalks, stairways and landings shall receive a floated finish followed by a broom or belt finish. Immediately after the concrete has received a float finish as specified below, it shall be given a coarse transverse scored texture by drawing a broom or burlap sack across the surfaces.
- D. Concrete surfaces for bridge construction shall be finished according to applicable section of ALDOT Standard Specifications for Highway Construction, Latest Edition.
- E. Concrete surfaces for minor structure construction shall be finished according to Standard Specifications Division 500.

1.3 MEASUREMENT

- A. There shall be no measurement for concrete finishing.

1.4 PAYMENT

- A. There shall be no direct payment for concrete finishing. The cost shall be included in the cost of the pay item for which the concrete is finished.

2.0 PRODUCTS

NOT USED

3.0 EXECUTION

3.1 GENERAL REQUIREMENTS

- A. All exposed concrete surfaces, except floors and stair treads, shall immediately, upon removal of forms, be freed of all form marks, fins or projections and have all honeycombs, hollows, tie holes and bug holes, filled with 1:2 cement mortar. Care shall be taken that patches exactly match the color of the previously poured concrete. A bonding agent shall be applied to all patched areas. After patching, dampen the green concrete. Coat the surfaces with a slurry of one part cement and 1-1/2 parts sand passing a No. 16 sieve using burlap or soft rubber floats. Rub vigorously. Remove the surplus by scraping and rubbing with clean burlap. Cure the surface in an approved manner. Cement for a slurry for unpainted concrete shall be made with the same color of cement as used for the concrete work. Location: All exposed concrete surfaces except floor, walking surfaces and driving surfaces. Keep rubbed surfaces damp for at least 36 hours after final rubbing.
- B. During the process of conditioning the completed structure for final acceptance, all exterior exposed concrete surfaces above grade shall be cleaned from drip marks and discolorations, washed down and broomed so that the entire structure is left with a neat, clean and uniform finish, texture, and color.
- C. All interior concrete floors shall have a steel trowel finish after floating unless scheduled to be painted. Painted concrete floors shall be floated and then re-floated to a uniform sandy texture which will maximum paint adhesion. All concrete sidewalks, landings, and exterior walking surfaces, shall have a light broom textured finish after floating.

3.2 SMOOTH FORM FINISH

- A. The form facing material shall produce a smooth, hard, uniform texture on the concrete.
- B. It may be plywood, tempered concrete-form-grade hardboard, metal, plastic, paper, or other approved material capable of producing the desired finish.
- C. The arrangement of the facing material shall be orderly and symmetrical, with the number of seams kept to the practical minimum.
- D. It shall be supported by studs or other backing capable of preventing excessive deflection. Material with raised grain, patches, dents or other defects which will impair the texture of the concrete surface shall not be used.
- E. Tie holes and defects shall be patched. All fins shall be completely removed.

3.3 GROUT CLEANED FINISH

- A. No cleaning operations shall be undertaken until all contiguous surfaces to be cleaned are completed and accessible. Cleaning as the work progresses shall not be permitted.
- B. Mix 1 part portland cement and 1-1/2 parts fine sand with sufficient water to produce a grout having the consistency of thick paint.

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- C. White portland cement shall be substituted for a part of the gray portland cement in order to produce a color matching the color of surrounding concrete, as determined by a trial patch.
- D. Wet the surface of the concrete sufficiently to prevent absorption of water from the grout and apply the grout uniformly with brushes or a spray gun.
- E. Immediately after applying the grout, scrub the surface vigorously with a cork float or stone to coat the surface and fill all air bubbles and holes.
- F. While the grout is still plastic, remove all excess grout by working the surface with a rubber float, sack or other means.
- G. After the surface whitens from drying (about thirty minutes at normal temperature), rub vigorously with clean burlap.
- H. The finish shall be kept damp for at least 36 hours after final rubbing.

3.04

FLOATED FINISH

- A. After the concrete has been placed, consolidated, struck off and leveled, the concrete shall not be worked further until ready for floating.
- B. Floating shall begin when the water sheen has disappeared and when the surface has stiffened sufficiently to permit the operation. The Contractor shall not use dry cement to absorb bleedwater.
- C. During or after the first floating, the surface shall be checked with a 10-ft. straightedge applied at not less than two different angles for high and low spots.
- D. All high spots shall be cut down and all low spots filled during this procedure to produce a surface within Class B tolerance throughout.
- E. The slab shall then be refloated immediately to a uniform sandy texture.

3.5

TROWELED FINISH

- A. The surface shall first be float-finished as specified above.
- B. It shall next be power troweled, and finally hand troweled to a smooth, hard, dense finish.
- C. The first troweling after power floating shall produce a smooth surface which is relatively free of defects but which may still show some trowel marks.
- D. Additional trowelings shall be done by hand after the surface has hardened sufficiently.
- E. The final troweling shall be completed when a ringing sound is produced as the trowel is moved over the surface.
- F. The surface shall be thoroughly consolidated by the hand troweling operations.
- G. The finished surface shall be essentially free of trowel marks, uniform in texture and appearance and shall be planed to Class A tolerance.
- H. On surfaces intended to support floor coverings, any defects of sufficient magnitude to show through the floor covering shall be removed by grinding.

END OF SECTION 03345

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SECTION 03375 - CURB AND GUTTER

1.0 GENERAL

1.1 RELATED SECTIONS

- A. Section 02223 - Embankment and Backfill
- B. Section 02510 - Bituminous Concrete Pavement
- C. Section 03100 - Concrete Formwork
- D. Section 03200 - Concrete Reinforcement
- E. Section 03300 - Portland Cement Concrete
- F. Section 03345 - Concrete Finishing

1.2 SCOPE

- A. This Section shall cover the work of constructing a Portland Cement Concrete combination curb and gutter, constructed with or without metal reinforcement. Curb and gutter shall be constructed in accordance with the plan details and these specifications at the locations shown on the plans or established in conformity with the lines, grades, dimensions, and cross sections shown on the plans or designated.

1.3 MEASUREMENT

- A. There shall be no separate measurement for curb and gutter.

1.4 PAYMENT

- A. There shall be no direct payment for curb and gutter.

2.0 PRODUCTS

2.1 MATERIALS

- A. Products shall conform to Division 800 of the ALDOT Standard Specifications for Highway Construction, Latest Edition. Concrete shall conform to the requirements of Section 501 of those same Specifications. Expansion joint filler shall be as specified in Section 832 of those same Specifications. All Products and Concrete shall also conform to applicable sections of Division 3 – Concrete in these Specifications.

3.0 EXECUTION

3.1 CONCRETE MIXES

- A. Concrete mixes shall be provided by Section 501 of the ALDOT Standard Specifications for Highway Construction, Latest Edition, with a Class A, Type 2 mix being used with standard forms and either a Class A or Class C mix, modified as deemed necessary by the Testing Engineer, to fit the type curbing machine being used.

3.2 FOUNDATION

- A. The foundation shall be constructed or excavated to the required depth below the finished surface in accordance with the cross section shown on the plans or as designated. All soft or other unsuitable material shall be removed and replaced with suitable material, in layers not to exceed four inches compacted. The foundation shall be compacted as provided for the applicable types of material involved.

3.3 FOUNDATION BACKFILL

- A. If provided by the plans and/or proposal, foundation backfill to replace unsuitable material shall be placed and constructed as provided in Section 214 of the ALDOT Standard Specifications for Highway Construction, Latest Edition. No direct payment will be made for foundation backfill, except when the proposal includes a unit price for this pay item.

3.4 FORMS

A. GENERAL

The Contractor shall use standard type metal forms as noted herein or, if requested in writing and approved by the Engineer, an approved automatic extrusion type curb and/or gutter machine.

B. STANDARD FORMS

These forms shall be metal, except for radial sections, straight, and free from warps and of sufficient strength, when staked, to hold the concrete true to line and grade without distortion. They shall provide the approved typical section and depth of the section shown on the plans. Radial or curved forms may be of flexible metal or a wood form of approved design. Bent or damaged forms shall not be used.

All forms shall be securely staked, braced, and held together to the exact lines and grades established and shall be kept sufficiently tight to prevent leakage of mortar. All forms shall be cleaned and oiled with a suitable oil immediately before concrete is placed against them.

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C. **MACHINE FORMED**

Any automatic extrusion type curb and/or gutter machine considered for approval must be demonstrated to produce a section conforming to the dimensions, cross-section, lines, and grades shown on the plans within the tolerances provided in ALDOT Standard Specifications for Highway Construction, Latest Edition Item 623.03(h)2 for formed curbs and/or gutters. Failure to consistently produce an acceptable product shall be cause to withdraw approval of the machine and order the use of standard forms. All types of curbs, gutter, and combinations shall be placed in one operation, to the depth of cross-section specified on the plans. The use of a two-stage operation will not be permitted.

3.5 SECTIONS

A. Gutter, curb, and combination curb and gutter shall be constructed in sections of the lengths show on the plans. The length of section may be reduced where necessary to form closure.

3.6 HANDLING, PROPORTIONING, AND MIXING MATERIALS

A. The handling, storage, proportioning, and mixing of concrete shall conform to Section 501 of the ALDOT Standard Specifications for Highway Construction.

3.7 JOINTS

A. All expansion, contraction, and construction joints shall be constructed as shown on the plans and in accordance with the requirements of ALDOT Standard Specifications for Highway Construction, Latest Edition Article 501.03. If not shown on the plans, joints shall be placed as follows:

1. Expansion joints shall be placed in curb and gutter to match those in concrete pavement where the two are adjacent
2. Expansion joints 3/4 inch wide shall be placed where curb and gutter terminates against rigid objects.
3. Expansion joint filler and sealer shall meet the requirements of ALDOT Standard Specification for Highway Construction Articles 832.01 and Expansion joint filler shall extend from the bottom of the curb and gutter to within one inch of the top; the sealer shall be 3/4 inch thick and shall be recessed 1/4 inch from the top.
4. Contraction joints shall be placed in curb and gutter to match those in concrete pavement where the two are adjacent, but in no instance more than 1/4 inch between joints. The contraction joints shall be sawed or otherwise cut two inches deep by 1/8 inch wide and shall extend two inches below the pavement surface.

3.8 PLACING AND FINISHING CONCRETE – STANDARD METHOD.

A. **PLACING**

The subgrade and forms shall be checked and approved just prior to placing concrete against them. All debris or other foreign material shall have been removed from the space to be occupied by the concrete. The subgrade shall be moist but not wet or muddy. After mixing, the concrete shall be placed in the forms and shall be tamped, spaded, or vibrated sufficiently to produce a dense homogeneous mass and to bring the mortar to the surface. Particular attention shall be given to spading the concrete along and against the surface of the forms to prevent honeycombing and secure a smooth, uniform surface.

B. **STRIKE-OFF AND FINISHING**

When the forms are filled, the concrete shall be struck off with a template, cut to the curb edge design. The exposed concrete surface shall then be finished smooth with a wooden float in a manner that will compact the mass and produce a true, even top surface. Plastering with mortar to build up or finish will not be permitted. The surface of the gutter and the face and top of the curb shall be checked with a 10-foot straight edge and any irregularities more than 1/4 inch in 10 feet corrected. The alignment and grade shall not at any point vary more than 1/2 inch from that established by the elevation control stakes. Excessive troweling with a steel trowel will not be permitted. A textured finish shall be provided on the exposed surface just before the concrete becomes nonplastic by the use of a burlap or cotton fabric drag, brush, or broom which will produce a uniform gritty texture along the length of the curb, gutter, or combination curb and gutter. The upper edges of curb and gutter shall be rounded with an approved edging tool to the radius shown on the plans. The joint templates shall be set during the placing of the concrete and allowed to remain in place until the concrete has set sufficiently to hold its shape, but shall be removed while the forms are still in place.

The forms shall be left in place until the concrete has set sufficiently so that they can be removed without damage to the work, but, unless otherwise directed, they shall be removed within 24 hours after the concrete has been placed. Immediately after the removal of the forms, the repair of any minor defective areas shall be accomplished.

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3.9

PLACING AND FINISHING CONCRETE – MACHINE LAID

- A. The requirements of ALDOT Standard Specifications for Highway Construction, Latest Edition Subarticle 623.03(h) are applicable except that fixed forms are not required.

3.10

CURING AND PROTECTION

- A. Immediately after the finishing operation is completed, the concrete shall be cured as provided by ALDOT Standard Specifications for Highway Construction Subarticle 450.03(m). If mats are used, they shall be kept continuously moist for a period of at least 72 hours. During this period, and until completion and acceptance of the work, it shall be protected from damage by the elements or other cause.

3.11

BACKFILLING

- A. After the concrete has set sufficiently, spaces along the front and back sides of the gutter, curb, or combination curb and gutter, shall be backfilled to the required elevation with suitable material which shall be compacted by tamping with approved metal tamps or mechanical tamps in layers not more than four inches thick until firm and solid.

END OF SECTION 03375

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SECTION 03900 - CONCRETE SAWING AND CORING

1.0 GENERAL

1.1 RELATED SECTIONS

- A. Section 03300 - Portland Cement Concrete

1.2 SUBMITTALS

- A. Include Material Safety Data Sheets, if applicable
B. Shop Drawings: For temporary shoring and supports, prepared by or under the supervision of a qualified professional engineer. Design and engineering of temporary shoring and supports are Contractor's responsibility. Indicate proposed schedule and sequence for removal of temporary shoring and supports.
C. Qualification Data: For installers, to demonstrate their capabilities and experience.

1.3 QUALITY ASSURANCE

- A. Cutting Contractor Qualifications: Retain cutting contractors that are licensed professionals.
B. Cutting Contractor shall adhere to applicable safety guidelines in accordance with Federal, State, and Local Ordinances.

2.0 PRODUCTS

NOT USED

3.0 EXECUTION

3.1 EXAMINATION

- A. Notify Engineer seven days in advance of dates when areas of sawing or coring concrete and reinforcing bars will be located.
B. Mark areas of concrete for removal.

3.2 PREPARATION

- A. Temporary support and shoring: Provide temporary support of Work to be cut.
B. Protection: Protect existing construction during cutting and patching to prevent damage. Provide protection from adverse weather conditions for portions of Project that might be exposed during cutting or coring operations.
C. Adjoining Areas: Avoid interference with use of adjoining areas or interruption of free passage to adjoining areas.
D. Sawing Area: Lay out area to be cut using a color that does not conflict with color representing other utilities. Spray marking with a clear coat.
E. Coring Area: Lay out area to be cut using a color that does not conflict with color representing other utilities. Spray marking with a clear coat.
F. Over-cut: All cuts shall be within the perimeter of the area to be removed. Approval for any over-cut shall be given by the Engineer prior to any cutting.

3.3 PERFORMANCE

- A. General: Employ skilled workers to perform sawing and coring. Proceed with sawing and coring at the earliest feasible time, and complete without delay.
1. Cut existing construction to provide for installation of other components or performance of other construction, and subsequently patch as required to restore surfaces to their original condition.
2. Avoid existing utilities located in areas to be cut.
3. Excavating and Backfilling: Comply with requirements in these Specifications.
4. Utilities: Locate and turn off all services within the work area.
B. Sawing: Cut existing construction by sawing using methods least likely to damage elements retained or adjoining construction.
1. In general, use hand or small power tools designed for sawing. Cut holes and slots as small as possible, neatly to size required, and with minimum disturbance of adjacent surfaces. Temporarily cover openings when not in use.
2. Tools: Gas operated saws will only be permitted for use in the outdoors.
3. Concrete and Masonry: Cut using a cutting machine, such as an abrasive saw.
4. Use water or a lubricant to cool the saw blades.
C. Coring: Core existing construction by using coring methods least likely to damage elements retained or adjoining construction.
1. Drill holes over one inch in diameter with a non-impact rotary tool in order to minimize spalling at the exit point.
2. Use diamond-core drill bits of the proper size.
3. Use rotary tools that operate below OSHA noise standards.
4. Use water or a lubricant to cool the drill bits.

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5. Hole diameter requirements for installation of Ductile Iron Pipe:

PIPESIZE (nominal inches)	INSIDE DIAMETER (inches)
2	4
4	8
6	10
8	12
10	14
12	18
14	20
16	22
18	24
24	30
30	36
36	43
42	49
48	56

6. Sealing:
 a. Install a watertight seal between the pipe and the cored hole.
 b. Seal shall be LINK-SEAL or approved equivalent.

- D. Clean-up:
 1. Wash or vacuum slurry or tailings generated from coring and/or sawing operations to remove them from work area. Slurry and tailing should be disposed of in a location approved by the Engineer.
 2. Collect, treat, and dispose of water used in coring and/or operations.
 3. Thoroughly clean removal areas of loose concrete, dust, and debris.
- E. Patching: Complete any necessary patch work per Section 01045 "Cutting and Patching"

3.4

FIELD QUALITY CONTROL

- A. Testing Agency: Owner will engage a qualified testing agency to sample materials and perform tests specified in Section 03300 "Portland Cement Concrete".

END OF SECTION 03900

APPENDIX D
CITY OF TUSCALOOSA SANITARY SEWER CONSTRUCTION SPECIFICATIONS

Section – Trenching, Backfill, and Compaction

Section – Precast Concrete Manholes

Section – Polyvinyl Chloride Gravity Sewer Pipe

Section – Polyvinyl Chloride Pressure Sewer Pipe

Section – Ductile Iron Pipe and Fittings

Section – Sanitary Sewer System

Section – Asphalt Paving and Patching

SECTION - TRENCHING, BACKFILL AND COMPACTION

PART 1 - GENERAL

1.01 Section Includes:

- A. This section of specifications covers the requirements for Trenching, Backfill, and Compaction for sanitary sewer lines placed in roadways, lawns or unimproved property or any other area.

1.02 Related Sections:

- A. Section – Polyvinyl Chloride Gravity Sewer Pipe
- B. Section – Polyvinyl Chloride Pressure Sewer Pipe
- C. Section – Ductile Iron Pipe and Fittings
- D. Section – Slope Protection and Erosion Control
- E. Section – Asphalt Paving and Patching

1.03 References:

- A. U.S. Department of Labor, Occupational Safety and Health Administration.
- B. State of Alabama Department of Transportation Standard Specifications for Highway Construction.
- C. AWWA C600 – Installation of Ductile Iron Water Mains and Their Appurtenances

1.04 Project Conditions:

A. Environmental Requirements:

1. The Contractor shall maintain all drainage ways, gutters, etc., at all times. The Contractor shall remove any eroded or washed material that enters pipes, ditches, or streams.
2. The Contractor shall provide erosion control as required to protect from damage surrounding areas. Erosion control measure shall meet all requirements of the City of Tuscaloosa.
3. All areas damaged as a result of erosion shall be repaired to a condition equal or better than the condition prior to construction, as determined by the Engineer.
4. The Contract shall comply with the City of Tuscaloosa Municipal Code in regards to all environmental best management practices.

PART 2 - PRODUCTS

2.01 Materials:

A. Select Backfill:

1. Select backfill where specified or required shall be crushed limestone. Crushed stone shall meet or exceed the requirements of the Alabama Department of Transportation Standard Specifications for Highway Construction, Section 825, Type "A".

B. Standard Backfill:

1. Standard backfill shall consist of native soils of good earth, sand, and gravel, and shall be free of large rocks, boulders and other deleterious substances.

C. Bedding:

1. Class "1" Bedding shall be Alabama Department of Transportation Standard Specifications for Highway Construction, Section 801, as follows:

Gravity Pipe (ALL materials) - No. 57 crushed limestone
Pressure Pipe (material NOT PLASTIC) - No. 57 crushed limestone
Pressure Pipe (PLASTIC material) - No. 8910 crushed limestone

2. Class "2" Bedding shall be reinforced concrete 3000 psi design mix.
3. Class "3" Bedding shall be native soil.

D. Trench Foundation

1. Trench foundation material shall be Alabama Department of Transportation Standard Specifications for Highway Construction, Section 801, No. 57 crushed limestone. This material shall only be used when approved in advance by the Engineer.

2.02 Source Quality Control:

- A. The Contractor shall supply gradation analysis for each type of crushed stone used.

PART 3 - EXECUTION

3.01 Examination of Conditions:

- A. The Contractor shall examine the area to be trenched and verify his requirements for

trenching.

3.02 Protection and Removals:

A. Fences:

1. All fences in conflict with the proposed construction shall be removed in a neat and workmanlike manner and then replaced immediately following construction operations. Where materials removed are not suitable for reuse, they shall be replaced with new material of equal or better quality and construction. All fences shall be rebuilt to line, with posts well set, wires fastened with new staples or ties and well stretched. All corner and end posts shall be well braced and set a minimum of 30 inches in the ground.

B. Utility Poles, Guy Wires, Miscellaneous Poles, Etc.:

1. All utility poles, guy wires, sign posts and similar private obstructions which are indicated on the plans or existing on the ground shall be removed and replaced by the Contractor at his own expense. In the event street signposts or signs are damaged or destroyed by the Contractor's operations, they may be replaced by the Owner at the Contractor's expense.
2. When it is necessary to remove or adjust any utilities, representatives of the utilities involved shall be notified to decide the method and nature of work to be done. The Contractor shall make satisfactory arrangements with other utilities for the required removal or adjustments at the Contractor's expense, unless otherwise specified.
3. The Contractor shall be held liable for damage, including negligent or willful damage to any other utility and shall pay for the cost of all necessary repairs and any damages resulting to public or private property resulting therefrom.
4. The Contractor shall take whatever means necessary to support sewer mains to their true line and grade when they are encountered during excavation. The pipe shall be supported so that no leakage will occur and under no circumstances will the Contractor be allowed to bypass raw sewage or allow raw sewage to leak into the trench. If a repair becomes necessary the contractor shall use materials of the same type and class of pipe or PVC pipe and fittings conforming to City of Tuscaloosa Sanitary Sewer Construction Specifications. All couplings to existing pipe shall be manufactured couplings and all metal parts shall be stainless steel.

C. Ornamental Shrubs and Trees in Public Right of Ways:

1. Ornamental shrubs and trees shall not be removed unless directed by the

Engineer. When ornamental shrubs and/or trees are to be removed and replaced, the following steps shall be followed:

- a. Remove all trees, shrubs or plants, which interfere with construction intact with root system and protect from drying during construction period.
 - b. Replace plant to original location as soon as possible, taking care to insure that hole is large enough, and no damage is done to root system.
 - c. Fill hole with good topsoil and tamp lightly and firmly into place and water plant.
2. Contractor shall replace with like kind and size if any plant, tree, or shrub which is disturbed by construction dies within one (1) year, at no cost to the Owner.

D. Adjacent Property:

1. The Contractor shall confine his operations to the rights-of-ways and/or easements designated. The Contractor at no additional cost to the Owner shall repair any damage to adjacent property.

E. Private Drives and Sidewalks:

1. The Contractor shall keep all private drives and sidewalks open and accessible at all times.
2. All streets and public roads shall be kept open and accessible to emergency vehicles at all times.

F. Existing Underground Utilities:

1. The Contractor shall protect all existing utilities during the trenching operation. The Contractor shall cooperate fully with the utility's requests for temporary and permanent supports during the trenching operation and shall furnish and install supports at no additional cost to the Owner.
2. Storm sewers in conflict with the proposed trench may be carefully dislodged and stockpiled. The pipes shall be cleaned and replaced immediately after new construction is clear. Storm sewers damaged by the Contractor shall be replaced with new pipe at no additional cost to the Owner. All storm sewers removed shall be re-laid to proper grade on a firm bedding so that settlement will not occur.

3.03 Trench Preparation:

A. Clearing and Grubbing:

1. Where clearing or partial clearing of the right-of-way or easements is necessary, such work shall be completed prior to trench excavation. Projecting materials such as trees, logs, brush, hedges, etc., shall be cut as near to the surface of the ground as possible, and all stumps and roots shall be grubbed out unless specifically stated otherwise. All materials so cleared and grubbed shall be removed from the site. In no case shall excavated materials be allowed to cover brush or trees prior to disposal.
2. The Contractor shall bear all costs of disposing of all cleared and grubbed materials. Unless otherwise specified, all merchantable timber cut from the area designated to be cleared shall become the property of the Contractor.
3. Burning will be permitted, provided the Contractor obtains permits and meets the requirements of the proper fire authorities and any other state, county or local ordinances. Burning on private property will not be permitted without written permission of the Owner of the property. The authority to burn shall in no way relieve the Contractor from damages, which may result from his operations.
4. In no case shall any materials from clearing and grubbing operations be left on the project, or be pushed onto abutting private properties, or be buried in embankments or trenches on the project.
5. On public property, existing trees or limbs over 2 inches in diameter shall not be cut unless they are within 7 feet of pipe centerline or specific permission is received from the Engineer. On private easements or in lawns, no trees or brush shall be cleared or cut without prior approval of the Engineer or Inspector. The Contractor shall be required to remove trees, shrubs or plants on private property intact, and to ball the roots, keep watered as required, and replant in their original location upon completion of pipe laying operations, unless written permission is obtained from the Engineer, or unless otherwise specified. The Contractor shall replace, at his own expense, any trees, shrubs, or plants which are damaged as a result of his operations, or which die within 1 year of the time it was disturbed or damaged.

B. Saw Cutting:

1. Prior to beginning the trenching operation in paved areas such as roads, drives, and parking lots, all paving shall be saw cut to a minimum depth of 2 inches. All paving materials shall be removed and disposed of prior to the trenching operation.
2. Prior to beginning the saw cutting, all traffic control devices, barricades, cones and permits required shall be obtained and in place.

C. Verification of Existing Utilities:

1. Prior to the excavation but after the saw cutting in paved areas, the Contractor shall unearth all known utilities and confirm the location and depth of such utility sufficiently far enough in advance to adjust the vertical or horizontal alignment of the pipeline if necessary.

3.04 Trench Construction:

A. General:

1. Trenching or excavation for pipe lines shall consist of the excavation necessary for the installation of sanitary sewers and all appurtenant facilities, including manholes, junction boxes, inlets, outlets, thrust blocks, and pipe protection as called for on the Drawings.
2. Trench excavation shall be made in an open cut unless tunneling or other construction methods are specifically authorized, and shall be true to the lines and grades shown on the plans or established by the Engineer.
3. When vertical banks for trench excavation are not practical to construct or create dangerous conditions to workmen, the banks may be sloped provided that such excavation does not damage adjacent structures. However, when trench banks are sloped, such banks shall be cut to vertical planes as specified above for that part of the ditch below the level of one (1) foot above the top of the pipeline. All side slopes shall conform to the requirements established by OSHA.
4. All streets, sidewalks, crossings, fire hydrants, water valves, fire alarm boxes and other similar public utilities are to be kept open or accessible for their intended use.
5. Every drain, gutter, culvert, or sewer for surface drainage encountered is to be kept open for both temporary and permanent flow, or if necessarily closed, other adequate provision for drainage is to be made.
6. In all cases where materials are deposited along open trenches, they shall be placed so that in the event of rain, no damage will result to the work and/or to adjacent property.
7. Pipe trenches shall not be excavated more than 300 feet in advance of pipe laying and temporary bridges or cross walks shall be constructed where required to maintain vehicular or pedestrian traffic.
8. Trench widths shall be confined to dedicated rights-of-way or construction

easements, unless special written agreements have been made with the affected property owner. Place all excavated materials within easements or rights-of-way, and do not obstruct any public or private roadways or streets.

9. Where select backfill is specified or required, all excavated materials shall be promptly removed and disposed of by the Contractor.

B. Rock Excavation:

1. Rock encountered in trench excavation for pipe lines shall be removed for the overall width of trench and to a depth of 6-inches below the bottom of the barrel of pipe 24-inches in diameter and smaller, and 8-inches below the bottom of pipe 24 to 36 inches in diameter, and 12-inches below pipe larger than 36-inches in diameter, if rock extends to such depths.
2. Where pipelines are constructed on concrete cradles, rock shall be excavated to the bottom of the cradle as shown on the plans. When necessary to provide sufficient working space, rock shall be excavated to additional depth for bell holes.
3. After the Engineer has inspected the completed excavation, the space below the ultimate pipe or structure grade shall be filled with an approved foundation material and compacted to the proper grade.
4. Drilling and blasting methods used in rock excavation shall be optional with the Contractor but shall be conducted with due regard to the safety of persons and property in the vicinity of the work and in strict conformity with all laws, ordinances, or regulations governing blasting and the use of explosives.
5. Rock excavation near existing structures of all types shall be conducted with the utmost care, and every precaution shall be taken to prevent damage to such structures. Any damage or injury of whatever nature to persons or property caused directly or indirectly by blasting operations shall be promptly repaired, replaced, or compensated for by the Contractor at his own expense and to the satisfaction of the persons injured or the owners of the property damaged.
6. Safety During Blasting:
 - a. Take all precautions necessary to prevent personal injury, damage to real or personal property, or interference with use and enjoyment of any property resulting from blasting or the vibration or concussions caused by blasting. These precautions shall include, but are not limited to, investigations by the Contractor to establish limits of the size and nature of individual blasts which may be safely accomplished without damage or interference with the use of property.

- b. All drilling and blasting operations shall be performed in strict conformity with all laws, ordinances and regulations governing blasting and the use of explosives. The Contractor or blasting subcontractor shall be licensed for this type of blasting and shall take out and maintain, during the term of its contract or subcontract and any extension thereof, insurance equal to that specified for the Contractor in the General Conditions.
- c. The Contractor shall notify the fire department at least 48 hours in advance of any blasting.

7. Damage From Use of Explosives:

- a. Immediately inform the explosive specialist orally and in writing of all matters concerning complaints and claims between the public, or government, and the Contractor. If the contractor causes damage, injury or interference, as stated herein, the Contractor shall modify his blasting procedure.
- b. The Contractor hereby assumes all liability for all personal injury, and damage to real or personal property, or interference with the use or enjoyment of any property by reason of blasting or the resulting vibration or concussion. The Contractor assumes full responsibility for operating all equipment and performing all blasting in conformance with Federal and State laws, and regulations prescribed by any other governmental authority limiting the amount of vibration or concussion.

8. Pre-Blast Survey:

- a. The Contractor will conduct a pre-blast survey of the surrounding structures within 500 feet of any blasting operation on either side of the centerline of the blasting right-of-way and document the condition before any blasting or excavation begins. The documentation will include a written description of all defects, digital color photographs of each of these defects, and a complete inspection of all structures on the property. This includes outside structures, walls, sidewalks, etc. No video cameras will be allowed for pre-blast surveys where interior finished surfaces are concerned.
- b. In special situations, crack monitors may be located over existing cracks at selected locations to be measured before and after blasting to determine if widening or displacement has taken place.
- c. Before carrying out the inspection, the Contractor or his consultant shall notify the Owners of buildings or structures to be inspected and request

permission to carry out the inspection. Should any building Owner refuse permission to carry out this inspection, the Contractor shall notify the Engineers in writing, giving the Owner's reason for refusal.

9. Blasting Program:

- a. The Contractor shall furnish the Engineers the name and qualifications of its blasting consultant for approval.
- b. The Contractor's consultant shall formulate and make recommendations in a written blasting program furnished to the engineer. Criteria for the selection of this program shall be the prevention of damage to existing structures and the prevention of any interruption of their services.
- c. The blasting program shall include, but not be limited to, data on the locations, hole size, depth, overburden, pattern and inclination of the blast holes, the type, strength, amount, distribution, and powder factor for the explosives used, per hole and per blast, the sequence and pattern of delays, maximum amount of explosives in any one period, depth of rock, and depth of overburden, if any, and the description and purpose of special methods to be used. This data shall be accepted by the contractor as the general procedure of blasting on this job.
- d. Explosion and firing devices shall be of a type that is commercially available, suitable for the use intended, in good condition resulting from proper storage and maintenance.
- e. Blasting mats shall be of a size and type to be suitable for the use intended. All blasts should be covered with at least 2 feet of overburden. Fly-rock will not be permitted at any time. If a fly-rock incident does occur, the job will be stopped immediately and a written plan will be submitted by the Contractor to explain how this recurrence of fly-rock will be prevented in the future.

10. Blasting Preparation:

- a. Conduct a pre-blast survey of existing structures as specified herein.
- b. Prepare a written blasting program as specified herein.

11. Trial Blasting:

- a. Conduct a trial blasting program as directed by the Contractor's consultant before general excavation blasting may commence. The maximum explosive charge weight per delay period utilized shall be limited to the

amount submitted in the blasting plan.

- b. Trial blasting shall consist of determining the relationship between peak particle velocities and weight of the explosive charges by a planned program of trial blasts. Beginning with small weights of explosive, successively greater explosive weights shall be detonated and the particle velocities measured at several distances from the blast. The trial blasting and field observations are intended to develop a relationship between size of the explosive charge, distance from the explosion, and particle velocity. This data shall be used as a basis for controlling the blasting program.
- c. The initial blasts in any blasting area shall be considered test blasts. These test blasts will be monitored, at nearest structures, and modifications of the maximum explosive charge weight per delay may be allowed providing that the vibration effects, at the nearest structure, are maintained below the specified levels. These modifications to the maximum charge weight per delay will only be allowed on the advice of the vibration consultant.

12. General Blasting Procedures:

- a. A blast shall be defined as a predetermined number of shots. A period of at least 5 minutes shall elapse between each blast and a minimum delay time of 8 milliseconds shall elapse between each individual shot within a blast. The interval between individual shots may be increased or decreased if requested by the contractor and approved in writing by the Contractor's consultant. The contractor must, however, remain within the vibration limits hereinafter described.
- b. Blast Vibration Limits:
 - 1. Blasting vibrations as recorded adjacent to the foundation of the nearest above ground structure shall be limited as follows:
 - a. A peak particle velocity (on any component of a 3 component particle velocity recording seismograph) of 2.00 inches/seconds shall not be exceeded for the structure closest to the blast site when vibration frequencies are greater than 40 hertz. Frequencies less than 40 hertz will be limited to a peak particle velocity of 0.50 inch/second.
 - b. Compliance with the Bureau of Mines blast level chart, as noted in RI 8507, will suffice for the previously mentioned limits.
 - 2. When the existing structures are very close to the blasting area, very

slight changes in any blasting variable will result in large changes in vibration intensities. Modifications of the blasting method and reduction of the explosive charge weight per delay shall be used to ensure that one of the above limits is met.

3. At any time the Engineer reserves the right to reduce or increase explosive amounts, change blasting patterns on any blasting, or eliminate blasting in certain areas should conditions warrant.
4. The maximum peak particle velocity may be increased with the written approval of the Contractor's consultant providing that the contractor and his consultant prove that no damage to existing structures will result.

13. Air Blast Limits:

- a. Air blast from blasting shall be controlled such that:
 1. The maximum allowable air blast at any inhabited structure resulting from blasting operations shall not exceed 128 decibels peak when measured by an instrument having a flat response ± 3 decibels) over the range of at least 2 to 200 Hz.
- b. Air blast shall be monitored with an approved instrument having the required frequency response and capable of providing a permanent record of the air blast effects. These records, identified by time and recording location shall be made available upon request to the Engineers on a monthly basis or in a tabulated form at other times as required.

14. Documentation of Blasting Program:

- a. All recommendations, guidelines, findings, and correspondences for the blasting program will be documented in writing and compiled into a final report.
- b. Copies of ground vibration measurements recorded by seismographs will be analyzed and verified by the Consultant and included in the appendix of the final report.

C. Sheeting, Shoring and Bracing:

1. The sides of all trenching excavations shall be sufficiently sheeted, shored, and braced whenever necessary to prevent slides, cave-ins, settlements or movement of the banks and to maintain the excavation clear of obstructions that will, in any way, hinder or delay the progress of the work.

2. Wood or steel sheet piling of ample design and type shall be used when necessary.
3. All sheeting, shoring, and bracing shall have sufficient strength and rigidity to withstand the pressures exerted and to maintain the walls of the excavation properly in place and protect all persons and property from injury or damage.
4. Where excavations are made adjacent to existing buildings or other structures, or in paved streets or alleys, the Contractor shall take particular care to sheet, shore and brace the sides of the excavation adequately so as to prevent any undermining of or settlement beneath such structures or pavement. Underpinning of adjacent structures shall be done when necessary. The Contractor will be liable for any damage to any structure that results from his operations.
5. Sheeting, shoring or bracing materials shall not be left in place unless so shown by the plans or ordered by the Engineer. Such materials shall be removed in such manner as will not endanger or damage the new structure or any existing structures or property, either public or private, in the vicinity, and so as to avoid cave-ins or slides. No trench sheeting and bracing shall be removed until the trench has been backfilled one foot above the top of the pipe.

D. Trenching Through Dikes or Fill Sections:

1. Trenching through existing dikes or fill sections shall be accomplished in accordance with general trenching requirements as specified elsewhere.
2. Trenching for pipe lines or other utilities through dikes or fill sections under construction shall not begin until the new dike or fill section has been constructed, enlarged, or otherwise improved to an elevation 3 feet above the top of the pipe or other utility being installed.
3. Where existing dikes or fill sections are being used for the storage of liquids such as a lagoon, reservoir, pond, lake, canal, or other structure, the Contractor shall take whatever means necessary to preserve the integrity of the structure. No leakage of the stored liquid out of the structure will be allowed without the written approval of the owners of said structure.

E. Minimum Trench Widths:

1. All excavations shall be made to the lines and grades as established by the drawings, and shall be open cut through whatever material encountered. The Engineer may, if requested, make changes in the trench alignment to avoid major obstructions, if such changes can be made within the easement right-of-way

without adversely affecting the intended function of the facility. In areas where soil conditions permit normal excavation of the trench, the sides shall be cut as nearly vertical as possible from the bottom of the trench to a point at least 12 inches above the top of the pipe. The trench width shall conform to Table 2 of the AWWA C600 Specification. For pipes larger than listed in Table 2, the over-all width of trench shall be that determined from the formula $4/3d$ plus 12 inches, in which "d" is the inside diameter of the pipe in inches.

3.05 Dewatering:

- A. The Contractor shall at all times provide and maintain the necessary equipment and means for removal of all water from excavated areas. All excavated areas shall be kept free of water while any work is in progress. Particular precautions shall be taken to prevent the displacement of structures or pipelines as a result of accumulated water.
- B. Bedding material or pipe shall not be placed in wet or unstable trenches. Soil that cannot be properly dewatered shall be excavated and dry material tamped in place to such a depth as may be required to provide a firm trench bottom.
- C. All water removed or diverted from excavations shall be disposed of in a manner that will prevent damage to adjacent property or any flooding of streets or property. Disposal of trench water through the pipeline under construction shall not be allowed.
- D. Water shall be removed and disposed of so as to not damage adjacent property or existing drainage ways.

3.06 Trench Foundation Material:

- A. Where unsuitable materials for supporting pipe bedding are encountered, these materials shall be removed and replaced with trench foundation material, as directed by the Engineer.
- B. Trench foundation material shall be placed at the specified trench width from the bottom of the excess excavation to the bottom grade line of the pipe bedding.
- C. Trench foundation material so placed shall be as shown on the trench detail drawings or specified herein. If not shown on the drawings, trench foundation material shall consist of Alabama Department of Transportation Standard Specifications for Highway Construction, Section 801, No. 57 crushed limestone.

3.07 Bedding and Backfill:

- A. General:

1. All areas where bedding is not specifically called for or required by the Engineer, the pipe shall be bedded in native soils. Bell holes shall be excavated so that the entire pipe length rests on firm soil.
2. Areas undercut by the Contractor through negligence, or his convenience, shall be backfilled and tamped with approved materials at the expense of the Contractor. In areas that are to be paved, the backfill material shall be select backfill.
3. Bedding shall meet the requirements of Paragraph 2.01 of these specifications.
4. Backfilling shall not begin before the Engineer or Inspector has inspected the grade and alignment of the pipe.
5. If select backfill is not specified, backfilling to a point 12-inches above the top of the pipe, defined as the pipe zone, shall be done with good earth, sand or gravel and shall be free from large rocks or hard lumpy materials. Large rocks shall be defined as any larger than 2-inches in diameter. No materials of perishable, spongy or otherwise unsuitable nature shall be used in backfilling. It is essential that the completed backfill be done in such a manner as to minimize voids in the backfill.
6. Place trench backfill material at approximately the same rate along both sides of the pipe and compact by tamping in layers not to exceed 8 inches of loose fill up to the horizontal centerline of the pipe. The intent is to cradle the pipe so that the full length is uniformly supported on firm bedding and the weight of the pipe and backfill is borne uniformly by the lower half of the pipe barrel. Special attention should be given to the backfilling and tamping procedures to insure that no voids or un-compacted areas occur beneath the pipe. After this, fill and compact the trench as specified below, depending upon the location of the work and danger from subsequent settlement.
7. All backfilling shall be done in such a manner that will not disturb or injure the pipe or structure over or against which it is being placed. Any pipe or structure injured, damaged, or moved from its proper line or grade during backfilling operations, shall be replaced or repaired and then re-backfilled as herein specified, at the expense of the Contractor.

B. Trench Backfill and Pipe Bedding:

1. Pipe bedding and trench backfill shall be constructed as shown on the drawings for trench details. If no trench details are shown on the drawings, then the Contractor shall install the utilities as described in Paragraphs 3.07 B.3 and 3.07 B.4.

2. Where pipes are installed in unpaved areas, unless specifically shown on the drawings or called out in the Bid Schedule to be unimproved, the areas shall be considered to be Improved areas and shall be constructed accordingly.

3. Pipe Bedding and Trench Backfill – **GRAVITY** Pipe:

a. Under Pavement – Asphalt or Concrete and/or Gravel Drives:

Pipe Material – Ductile Iron.

Bedding – 6" ALDOT No. 57 crushed limestone.

Initial Backfill – Select Backfill ALDOT 825 Type "A" from bottom of pipe to springline in maximum 8" loose layers compacted to 95% SPD.

Final Backfill – Select backfill ALDOT 825 Type "A" to top of trench in maximum 8" loose layers compacted to 95% SPD.

Pipe Material – PVC.

Bedding – 6" ALDOT No. 57 crushed limestone.

Initial Backfill – Select Backfill ALDOT 825 Type "A" from bottom of pipe to 12" above top of pipe in maximum 8" loose layers compacted to 95% SPD.

Final Backfill – Select backfill ALDOT 825 Type "A" to top of trench in maximum 8" loose layers compacted to 95% SPD.

b. Improved Areas:

Pipe Material – Ductile Iron.

Bedding – 6" ALDOT No. 57 crushed limestone.

Initial Backfill – ALDOT No. 57 crushed limestone from bottom of pipe to springline in maximum 8" loose layers; consolidated.

Final Backfill – Standard backfill to top of trench in maximum 8" loose layers compacted to 90% SPD.

Pipe Material – PVC.

Bedding – 6" ALDOT No. 57 crushed limestone.

Initial Backfill – ALDOT No. 57 crushed limestone from bottom of pipe to 12" above top of pipe in maximum 8" loose layers; consolidated.

Final Backfill – Standard backfill to top of trench in maximum 8" loose layers compacted to 90% SPD.

c. Unimproved Areas:

Pipe Material – Ductile Iron.
Bedding – 6" ALDOT No. 57 crushed limestone
Initial Backfill – ALDOT No. 57 crushed limestone from bottom of pipe to springline.
Final Backfill – Standard backfill to top of trench, loose.

Pipe Material – PVC
Bedding – 6" ALDOT No. 57 crushed limestone.
Initial Backfill – ALDOT No. 57 crushed limestone from bottom of pipe to 12" above top of pipe in maximum 8" loose layers; consolidated.
Final Backfill – Standard backfill to top of trench, loose.

4. Pipe Bedding and Trench Backfill – **PRESSURE** Pipe:

a. Under Pavement – Asphalt or Concrete and/or Gravel Drives:

Pipe Material – Ductile Iron
Bedding – Class 3 Native Material *
Initial Backfill – Select backfill ALDOT 825 Type "A" from bottom of pipe to springline in maximum 8" loose layers compacted to 95% SPD.
Final Backfill – Select backfill ALDOT 825 Type "A" to top of trench in maximum 8" loose layers compacted to 95% SPD.

Pipe Material – PVC
Bedding – Class 3 Native Material *
Initial Backfill – ALDOT No. 8910 crushed limestone from bottom of pipe to 12" above top of pipe in maximum 8" loose layers compacted to 95% SPD.
Final Backfill – Select backfill ALDOT 825 Type "A" to top of trench in maximum 8" loose layers compacted to 95% SPD.

b. Improved Areas:

Pipe Material – Ductile Iron and/or PVC
Bedding – Class 3 Native Material *
Initial Backfill – Standard backfill from bottom of pipe to springline in maximum 8" loose layers compacted to 90% SPD.
Final Backfill – Standard backfill to top of trench in maximum 8" loose layers compacted to 90% SPD.

c. Unimproved Areas:

Pipe Material – Ductile Iron and/or PVC

Bedding – Class 3 Native Material *

Initial Backfill – Standard backfill from bottom of pipe to springline in maximum 8" loose layers compacted to 90% SPD.

Final Backfill – Standard backfill, loose to top of trench

*** Where trench bottom is rock, excavate rock to depth according to Section 3.04 of this specification and provide Class 1 bedding.**

3.08 Cleaning:

- A. The Contractor shall thoroughly clean all areas damaged during construction of excess fill, construction debris, etc.
- B. All gutters and adjacent curbing shall be swept clean of debris and materials that may hinder storm water flow.

3.09 Protection:

- A. The Contractor shall protect the newly constructed pipeline from damage until final acceptance of the work.

END OF SECTION

SECTION – PRECAST CONCRETE MANHOLES

PART 1 - GENERAL

1.1 Section Includes:

- A. This section of specifications covers the material and installation requirements for precast concrete manhole sections with tongue-and-groove joints, masonry transition to manhole frame, covers, anchorage and accessories.
- B. The testing requirements for materials, in-place, specified under this section shall conform to Section – Sanitary Sewer System.

1.2 Related Sections:

- A. Section – Trenching, Backfilling, and Compaction
- B. Section – Sanitary Sewer System

1.3 References:

- A. ASTM A48 – Standard Specification for Gray Iron Castings.
- B. ASTM C443 – Standard Specification for Joints for Concrete Pipe and Manholes, Using Rubber Gaskets.
- C. ASTM C478 – Standard Specification for Precast Reinforced Concrete Manhole Sections.
- D. ASTM C923 - Resilient Connectors Between Reinforced Concrete Manhole Structures and Pipes.
- E. International Masonry Industry All-Weather Council (IMIAC): Recommended Practices and Guide Specification for Cold Weather Masonry Construction.

1.4 Qualifications:

- A. Manufacturer: Company specializing in manufacturing products specified in this section with minimum of five years documented experience.

1.5 Environmental Requirements:

- A. Masonry construction shall not be performed when ambient temperatures are 40-degrees F. and falling unless provisions for heating and protecting the work are

approved. Protect new masonry from freezing for 48-hours after completion of the masonry work.

PART 2 - PRODUCTS

2.1 Materials:

A. Precast Manhole Base and Sections:

1. All precast manholes shall be new, unused manholes delivered directly from the manufacturer to the job site. The date of manufacture and the name or trademark of the manufacturer shall be clearly marked on the outside of the barrel.
2. Precast concrete manholes shall be of reinforced concrete manhole sections conforming to the requirements of ASTM C478. The concrete when tested in compression shall not be less than 4000 psi and absorption shall not exceed 9%.
3. Precast manhole base and sections shall be a minimum of 48-inches inside diameter. Precast manhole base shall have a minimum wall thickness of 5 inches and minimum bottom thickness of 6 inches. Minimum wall thickness of the manhole riser sections shall be 5 inches for 48" I.D. sections, 6 inches for 60" I.D. sections, and 7 inches for 72" I.D. sections.
4. Manhole base riser, riser, transition, and cone sections shall have offset tongue and groove joints and shall be made watertight with prelubricated rubber gaskets conforming to ASTM C443 and butyl sealant waterstops. Prelubricated gaskets shall be Tylox Superseal as manufactured by Hamilton-Kent or equal; butyl sealant waterstop shall be Conseal CS-231 or equal, in widths as recommended by the manufacturer.
5. Manholes shall be assembled with the fewest number of sections to makeup the required height, thereby reducing the number of joints. The use of more than one riser section of 16 inches or less shall be prohibited. The City Engineer may require that any manhole not composed of the minimum number of sections be replaced.
6. Precast eccentric cone shall be provided at top section of manhole. Eccentric cone shall have the same reinforcing as manhole base and sections. Cone sections shall be made with a minimum 5-inch wall thickness at the bottom and 8-inch wall thickness at the top. Where watertight manhole frame and covers are indicated on the drawings, cone sections shall be supplied with

four (4) stainless steel anchor bolts as shown in the City of Tuscaloosa Standard Detail drawing.

7. Two lift holes shall be cast into each cone or riser section for purposes of handling and placement.
8. Openings for inlet and discharge sewer pipes shall be provided in the manhole base section and in the riser section for drop manholes. Openings shall be at positions and elevations as indicated on the plans, and may be cast into the manhole wall or mechanically cored at the manufacturing facility. Openings shall be sized to accommodate the flexible manhole sleeve.

B. Precast Concrete Adjusting Rings:

1. Provide precast concrete adjusting rings, as required, between top of eccentric cone and finished grade.
2. Precast concrete adjusting rings shall be of same materials of construction as manhole bases and sections, grooved top and bottom.
3. Adjusting rings shall be 3 or 4 inches high by 5 inches thick. Maximum combined height of adjustment rings shall be limited to 8 inches.

C. Flexible Manhole Sleeves:

1. Flexible manhole sleeves suitable for use in precast or cored openings utilizing premolded shapes positioned with expansion rings shall comply with the requirements of ASTM C923 and shall be manufactured by Kor-N-Seal or approved equal. Flexible connectors shall be installed as recommended by the manufacturer.

D. Manhole Steps:

1. Manhole steps shall be Copolymer Polypropylene Plastic Coating over 1/2-inch minimum Grade 60 steel reinforcing, 12-inches wide, with slip resistant surface.
2. Manhole steps shall conform to ASTM C478 as manufactured by M.A. Industries, Model PSI-PF, or equal. Steps shall be centered under the manhole cover opening and be vertically aligned on 16-inch centers.

E. Manhole Frames and Covers:

1. Manhole frames and covers shall be close-grained, cast-iron, smooth, clean, free of blisters, blowholes and other defects and conform to ASTM A48, Class 30B. Plane or grind bearing surfaces to ensure a flat, fine surface. Castings judged to be defective by the Owner or Engineer will be rejected and shall be replaced by the Contractor.
2. Covers and frames shall be "Heavy-Duty" type, rated for a minimum of H-20 loading. Covers and frames shall be made in the United States. All castings shall be clearly marked with the manufacturers name, product catalog No. and made in the U.S.A. in cast letters.
3. Manhole covers shall be cast with two non-penetrating type pick holes. Covers shall not have vent holes.
4. Manhole frames and covers shall be of either Standard Type (non-bolted) or Watertight Type (bolt-down), as indicated on the drawings. If not indicated, manhole covers shall be standard type. In locations where the manhole rim elevation is below the 100-year flood elevation, manhole frame and covers shall be Watertight Type.
5. Manhole frames and covers shall conform to the manufacturer dimensions shown on the City of Tuscaloosa Standard Detail drawings.
6. When watertight frames are required, manhole joints shall be supplied with 3" x 16" x 1/2" butimastic-coated steel strap anchors and bolts as shown in the City of Tuscaloosa Standard Detail drawings.

F. Non-Shrink Grout

1. Non-shrink grout shall be used to seal openings in the manhole base and riser sections such as lift holes and around flexible sleeve connections as shown on the standard details. Non-shrink grout shall be Thoro WaterPlug or approved equal.
2. Surface preparation, mixing and application shall strictly adhere to manufacturer's recommendations.

PART 3 - EXECUTION

3.1 Excavation and Backfill:

- A. Perform excavation to lines and grades established by the Drawings. Construct excavation a minimum of two (2) feet in diameter larger than the outside dimensions of the manhole base and sections.

- B. If material in bottom of excavation is unsuitable for supporting manhole, excavate unsuitable material to a depth specified by the Engineer and backfill resulting void with Alabama Department of Transportation No. 57 crushed limestone.
- C. Backfill around manholes constructed in paved areas or areas to be paved with Alabama Department of Transportation 825, Type "A". Compact backfill in 8-inch loose lifts to minimum density of 95% Standard Proctor Density with vibratory compaction equipment.
- D. Backfill around manholes in unimproved areas and lawns with native materials, compacted in 8-inch loose lifts to minimum density of 95% Standard Proctor Density.

3.2 Granular Base:

- A. Remove standing water from excavation. Place 12-inches minimum of Alabama Department of Transportation #57 stone and compact with vibratory compaction equipment.
- B. Excavations deeper than 12-inches below required grade of manhole base, not approved by the Engineer, shall be filled with Alabama Department of Transportation No. 57 crushed limestone and compacted by vibratory compaction equipment at no additional cost to the Owner.

3.3 Placing Manhole Base and Sections:

- A. Manholes shall be constructed to the sizes, shapes, dimensions, and at the locations shown on the plans and the City of Tuscaloosa Standard Detail drawings.
- B. Precast manhole bases shall be set plumb and true to the lines and grades specified by the plans. Manholes out of plumb in excess of 1/4-inch in eight (8) feet shall be reset.
- C. Clean ends of manhole sections of foreign materials and inspect ends for damage.
- D. Place prelubricated gasket into recess. Place butyl sealant waterstop as shown in the City of Tuscaloosa Standard Details. Follow gasket and waterstop manufacturers' installation instructions. Set manhole section.
- E. When new openings are required in existing manholes, openings shall be core drilled.

- F. Install flexible manhole sleeves on pipes at the precast or core drilled openings according to manufacturer's recommendations. Grout around flexible sleeve as shown on the City of Tuscaloosa Standard Detail drawing.
- G. Seal lifting holes and flexible manhole sleeves in manhole on the interior and exterior with non-shrink grout to divert infiltration.

3.4 Manhole Invert:

- A. Manhole inverts shall be constructed of cement mortar and shall have the same cross-section as the invert of the sewers which they connect. The manhole invert shall be carefully formed to the required size and grade by gradual and even changes in sections. Changes in direction of flow through the sewer shall be made to a true curve with as large a radius as the size of the manhole will permit.
- B. For pipe diameters less than 48 inches, a bench shall be constructed on each side of the flow channel. The bench shall slope one (1) inch per foot. Bench shall be made of non-shrink grout.
- C. Where the difference in the invert elevation of two or more sewers 18-inches in diameter or smaller intersecting in one manhole is 2-feet or more, a drop manhole shall be constructed in the manner shown on the City of Tuscaloosa Standard Detail drawing. They shall be similar in construction to the standard manhole except that a drop connection of pipe and fittings of the proper size and material shall be constructed outside the manhole and supported by 3,000 psi concrete. The manhole and drop connection shall be placed on a 12-inch reinforced concrete foundation base. The drop connection piping assembly shall be bolted to the barrel of the manhole riser. Refer to City of Tuscaloosa Standard Detail SD 080.
- D. When manholes are constructed over existing sewers and a full section of pipe is through manhole, break out top section of pipe and cover exposed edges of pipe with grout.

3.5 Manhole Frames and Covers:

- A. Install manhole frames and covers with top surface adjoining surrounding grade in improved areas, or 18 inches above grade in unimproved areas. Where manholes are constructed in paved areas, the top surface of the frame and cover shall be tilted so as to conform to the exact slope, crown and grade of the existing pavement adjacent thereto. Set manhole frames at the required elevation in a full bed of grout for provide proper bonding to cone section and/or concrete adjusting rings.
- B. Where manhole frame elevation requires adjustment, precast concrete adjusting rings shall be used. A minimum 1/4-inch bed of non-shrinking grout shall be placed

between the manhole cone section and the adjusting ring. Same grout thickness shall be provided in between adjusting rings when multiple rings are necessary. Butyl sealant waterstop shall be placed beneath the frame and in between each concrete adjusting ring as shown on the City of Tuscaloosa Standard Detail drawings. Butyl sealant shall be Conseal CS-231.

- C. Manhole frame shall be positioned concentrically above the precast cone section or adjusting rings and set in a full bed of non-shrinking grout. A thick ring of non-shrinking grout extending to the outer edge of the precast cone section or adjusting ring shall be placed all around and on top of the manhole frame. The non-shrinking grout shall be smoothly finished and have a slight slope to shed water away from the frame and cover.
- D. Check manhole cover for fit in frame. If a manhole cover is either excessively loose or tight in the frame, or rocks, wobbles, or moves in the frame, the frame and cover shall be removed and replaced by the Contractor.

3.6 Protective Coatings

- A. Where shown on the drawings or directed by the City Engineer, manholes shall be protected from corrosion by the use of factory applied ceramic epoxy linings.
- B. Epoxy coating shall be an amide cured ceramic epoxy, Permite PCS-9043 Type II or approved equal. The epoxy shall be applied to a 40 mils dry film thickness on the inside of the structure per the manufacturer's recommendations.

END OF SECTION

SECTION - POLYVINYL CHLORIDE GRAVITY SEWER PIPE

PART 1 - GENERAL

1.01 Section Includes:

- A. This section of specifications covers the material requirements for polyvinyl chloride (PVC) pipe, fittings, and laterals for use in gravity sewer applications.
- B. The installation requirements for pipe specified under this section shall conform to Section – Trenching, Backfill and Compaction.
- C. The testing requirements for materials, in-place, specified under this section shall conform to Section – Sanitary Sewer System.

1.02 Related Sections:

- A. Section – Trenching, Backfill and Compaction
- B. Section – Sanitary Sewer System

1.03 References

- A. ASTM D1784, latest revision, Standard Specification for Rigid Poly(Vinyl Chloride) (PVC) Compounds and Chlorinated Poly(Vinyl Chloride) (CPVC) Compounds.
- B. ASTM D3034, latest revision, Standard Specification for Type PSM Poly(Vinyl Chloride) (PVC) Sewer Pipe and Fittings.
- C. ASTM D2412, latest revision, External Properties of Plastic Pipe by Parallel Plate Loading.
- D. ASTM D3212, latest revision, Standard Specification for Joints for Drain and Sewer Plastic Pipes Using Flexible Elastomeric Seals.
- E. ASTM F477, latest revision, Standard Specification for Elastomeric Seals (Gaskets) for Joining Plastic Pipe.
- F. ASTM D2321, latest revision, Standard Recommended Practice for Installation of Flexible Thermoplastic Sewer Pipe.
- G. AWWA C900 – Polyvinyl Chloride (PVC) Pressure Pipe, and Fabricated Fittings, 4 inches–12 inches, for Water Distribution.

1.04 Quality Control and Assurance:

- A. All pipe and fittings shall be inspected at the factory and on the job site. The pipe shall be homogeneous throughout and free from cracks, holes, foreign inclusions, or other defects. The pipe shall be as uniform in color as commercially practical. PVC pipe shall have a ring painted around the spigot ends in such a manner as to allow field checking of setting depth of pipe in the socket.

- B. PVC sewer pipe shall be marked with the manufacturer's name, production lot number, ASTM designation, PVC cell classification or material code, dimension ratio or standard dimension ratio, and the nominal diameter. All PVC pipe shall be manufactured in the United States.
- C. All PVC pipe shall be new and unused and properly stored at the manufacturer to prevent degradation of the pipe due the exposure to sunlight and excessive heat.
- D. Pipe must be delivered to job site by means, which will adequately support it, and not subject it to undue stresses. In particular, the load shall be so supported that the bottom rows of pipe are not damaged by "egging" or crushing. Pipe shall be unloaded carefully and strung or stored as close to the final point of placement as is practical. Pipe shall not be stored outside where subject to sunlight.
- E. Pipe which has been stored by the Contractor for three (3) months or longer shall not be acceptable.

PART 2 – MATERIALS

2.01 PVC Gravity Sewer:

- A. PVC gravity sewer pipe shall be made from compounds conforming to ASTM D1784. PVC pipe and fittings, 8 to 12 inches in diameter, shall conform to and be tested under all of the requirements of ASTM D3034. This designation specifies minimum requirements and test methods for materials, dimensions, workmanship, flattening resistance, impact resistance, pipe stiffness, extrusion quality, and pipe marking. PVC gravity sewer shall have a wall thickness equal to or greater than SDR 35.
- B. Minimum pipe stiffness ($F/\Delta Y$) at 5 percent deflection shall be 115 for all sizes when calculated in accordance with ASTM D2412.
- C. PVC sewer pipe shall be supplied in standard lengths of at least 12 feet 6 inches. Longer lengths are permitted. PVC gravity sewer pipe shall be green in color.
- D. Fittings for service connections shall be of the factory made inline type conforming to the requirements of ASTM D3034 and shall have a wall thickness equal to or greater than SDR 35. Service connections shall be made with wye fittings. Saddle type fittings shall not be used.
- E. All pipe and fittings shall be joined by means of an integral wall bell and spigot with a flexible watertight elastomeric seal. Joint material and testing requirements shall conform to ASTM D3212 and ASTM F477.

2.02 PVC Laterals

- A. PVC service laterals for PVC sewer mains shall be of same material described in 2.01A above.
- B. PVC service laterals for ductile iron sewer mains shall be AWWA C-900 pipe and shall have a wall thickness equal to or greater than DR 25.
- C. Contractor shall provide an easily removable, watertight and airtight, gasketed plug at the end of the service lateral.

PART 3 – EXECUTION

3.01 PVC Gravity Sewer:

- A. In addition to the requirements for installation and testing specified in Section – Sanitary Sewer System, installation of PVC gravity sewer pipe shall conform to ASTM D2321 and manufacturer's recommendations unless otherwise amended in these Specifications.
- B. Trenching, backfill, and compaction shall conform to Section – Trenching, Backfill and Compaction of these Specifications.
- C. The inside of all bells and outside of all spigots shall be wiped to remove all dirt, water, or other foreign matter so that their surfaces are clean and dry when the pipes are joined.
- D. Immediately before joining PVC pipe, the joining surfaces shall be completely coated by brushing with the lubricant sealer furnished by the pipe manufacturer. The spigot end shall then be centered to exact line and grade and then sealed by forcing the spigot into the bell in an approved manner.
- E. Pipe that has been field cut must be beveled for insertion into the gasketed joint. Bevel can be made with hand or power tool. In either case, the finished bevel should be the same as the factory bevel.

3.02 PVC Laterals

- A. In addition to the requirements for installation and testing specified in Section – Sanitary Sewer System, installation of PVC laterals pipe shall conform to ASTM D2321 and manufacturer's recommendations unless otherwise amended in these specifications. Connection between service lateral and sewer main shall be

watertight. PVC service laterals shall be installed for each lot and extend from the collector sewer to user's property line.

- B. Trenching, backfill, and compaction shall conform to Section – Trenching, Backfill and Compaction of these Specifications.
- C. A PVC-coated electronic service marker shall be located six inches above the top of the lateral just beyond the curb.

END OF SECTION

SECTION - POLYVINYL CHLORIDE PRESSURE SEWER PIPE

PART 1 - GENERAL

1.01 Section Includes:

- A. This section of specifications covers the material requirements for polyvinyl chloride (PVC) pipe and fittings for use in pressure sewer applications. These include low pressure sewers and force mains.
- B. The installation requirements for pipe specified under this section shall conform to Section – Trenching, Backfill and Compaction.
- C. The testing requirements for materials, in-place, specified under this section shall conform to Section – Sanitary Sewer System.

1.02 Related Sections:

- A. Section – Trenching, Backfill and Compaction
- B. Section – Sanitary Sewer System
- C. Section – Ductile Iron Pipe and Fittings

1.03 References

- A. ASTM D1784, latest revision, Standard Specification for Rigid Poly(Vinyl Chloride) (PVC) Compounds and Chlorinated Poly(Vinyl Chloride) (CPVC) Compounds.
- B. ASTM D2241, latest revision, Standard Specification for Poly(Vinyl Chloride) (PVC) Pressure-Rated Pipe (SDR Series).
- C. ASTM D2412, latest revision, External Properties of Plastic Pipe by Parallel Plate Loading.
- D. ASTM D3139, latest revision, Standard Specification for Joints for Plastic Pressure Pipes Using Flexible Elastomeric Seals.
- E. ASTM F477, latest revision, Standard Specification for Elastomeric Seals (Gaskets) for Joining Plastic Pipe.
- F. ASTM D1785, latest revision, Standard Specification for Poly(Vinyl Chloride) (PVC) Plastic Pipe, Schedules 40, 80, and 120.
- G. ASTM D2665, latest revision, Standard Specification for Poly(Vinyl Chloride) (PVC) Plastic Drain, Waste, and Vent Pipe and Fittings.
- H. ASTM D2672, latest revision, Standard Specification for Joints for IPS PVC Pipe Using Solvent Cement.
- I. ASTM D2855, latest revision, Practice for Making Solvent-Cemented Joints with Poly(Vinyl Chloride) (PVC) Pipe and Fittings.

1.04 Quality Control and Assurance:

- A. All pipe and fittings shall be inspected at the factory and on the job site. The pipe shall be homogeneous throughout and free from cracks, holes, foreign inclusions, or other defects. The pipe shall be as uniform in color as commercially practical. PVC pipe shall have a ring painted around the spigot ends in such a manner as to allow field checking of setting depth of pipe in the socket.
- B. PVC sewer pipe shall be marked with the manufacturer's name, production lot number, ASTM designation, PVC cell classification or material code, dimension ratio or standard dimension ratio, and the nominal diameter. All PVC pipe shall be manufactured in the United States.
- C. All PVC pipe shall be new and unused and properly stored at the manufacturer to prevent degradation of the pipe due the exposure to sunlight and excessive heat.
- D. Pipe must be delivered to job site by means, which will adequately support it, and not subject it to undue stresses. In particular, the load shall be so supported that the bottom rows of pipe are not damaged by "egging" or crushing. Pipe shall be unloaded carefully and strung or stored as close to the final point of placement as is practical. Pipe shall not be stored outside where subject to sunlight.
- E. Pipe which has been stored by the Contractor for three (3) months or longer shall not be acceptable.

PART 2 – MATERIALS

2.01 PVC Force Mains:

- A. PVC force mains shall be made from compounds conforming to ASTM D1784. PVC force main piping and fittings, 4 to 12 inches in diameter, shall conform to and be tested under all requirements of ASTM D2241. This designation specifies minimum requirements and test methods for materials, dimensions, workmanship, sustained pressure, burst pressure, flattening, extrusion quality, and pipe markings. PVC force main pipe shall have a wall thickness equal to or greater than SDR 21. Pipe shall have a pressure rating of 200 psi.
- B. Minimum pipe stiffness ($F/\Delta Y$) at 5 percent deflection shall be 224 for all sizes when calculated in accordance with ASTM Designation D2412.
- C. PVC force main pipe shall be supplied in standard lengths of at least 12 feet 6 inches. Longer lengths are permitted. PVC force main pipe shall be green in color.

- D. PVC force main pipe shall be joined by means of an integral wall bell and spigot with a flexible watertight elastomeric seal. Joint material and testing requirements shall conform to ASTM D3139 and ASTM F477.
- E. Fittings for PVC force main shall be ductile iron with mechanical joints conforming Section – Ductile Iron Pipe and Fittings. Special transition gaskets shall be used to join SDR 21 PVC pipe to mechanical joint fitting.

2.02 PVC Low Pressure Sewer (SDR 21)

- A. PVC low pressure sewer pipe and fittings shall be made from compounds conforming to ASTM D1784. PVC low pressure sewer pipe, less than 4 inches in diameter, shall conform to and be tested under all requirements of ASTM D2241. This designation specifies minimum requirements and test methods for materials, dimensions, workmanship, sustained pressure, burst pressure, flattening, extrusion quality, and pipe markings. PVC low pressure sewer pipe shall have a wall thickness equal to or greater than SDR 21. Pipe shall have a pressure rating of 200 psi.
- B. Minimum pipe stiffness ($F/\Delta Y$) at 5 percent deflection shall be 224 for all sizes when calculated in accordance with ASTM Designation D2412.
- C. PVC low pressure sewer pipe shall be supplied in standard lengths of at least 12 feet 6 inches. Longer lengths are permitted. PVC low pressure sewer pipe shall be green in color.
- D. PVC low pressure sewer pipe shall be joined by means of an integral wall bell and spigot with a flexible watertight elastomeric seal. Joint material and testing requirements shall conform to ASTM D3139 and ASTM F477.
- E. Fittings for PVC low pressure sewer pipe shall have a wall thickness equal to or greater than SDR 21.

2.03 PVC Low Pressure Sewer (SCH 40)

- A. Alternatively, PVC low pressure sewer pipe and fittings, less than 4 inches in diameter, shall be Schedule 40 made in accordance with ASTM D1785 and ASTM D2665 from a PVC compound conforming to a cell classification of 12454 as defined by ASTM D1784. Belled end of solvent weld pipe shall meet the requirements of ASTM D2672 when installed in accordance with ASTM D2855.
- B. PVC SCH 40 pipe and fittings shall have a minimum pressure rating of 260 psi.

PART 3 – EXECUTION

3.01 PVC Pressure Pipe:

- A. In addition to the requirements for installation and testing specified in Section – Sanitary Sewer System, installation of PVC pressure sewer pipe shall conform to manufacturer's recommendations unless otherwise amended in these specifications.
- B. Trenching, backfill, and compaction shall conform to Section – Trenching, Backfill and Compaction of these Specifications.
- C. The inside of all bells and outside of all spigots shall be wiped to remove all dirt, water, or other foreign matter so that their surfaces are clean and dry when the pipes are joined.
- D. Immediately before joining PVC gasketed pipe, the joining surfaces shall be completely coated by brushing with the lubricant sealer furnished by the pipe manufacturer. The spigot end shall then be centered to exact line and grade and then sealed by forcing the spigot into the bell in an approved manner.
- E. Pipe that has been field cut must be beveled for insertion into the gasketed joint. Bevel can be made with hand or power tool. In either case, the finished bevel should be the same as the factory bevel.

END OF SECTION

SECTION - DUCTILE IRON PIPE AND FITTINGS

PART 1 - GENERAL

1.1 Section Includes:

- A. This section of specifications covers the material and installation requirements for ductile iron pipe and fittings used in gravity sewer and force main applications.
- B. The testing requirements for materials, in-place, specified under this section shall conform to Section – Sanitary Sewer System.

1.2 Related Sections:

- A. Section – Trenching, Backfilling, and Compaction
- B. Section – Sanitary Sewer System

1.3 References:

- A. ANSI/AWWA C104/A21.4 – American National Standard for Cement-Mortar Lining for Ductile Iron Pipe and Fittings for Water.
- B. ANSI/AWWA C105/A21.5 – American National Standard for Polyethylene Encasement for Ductile-Iron Pipe Systems.
- C. ANSI/AWWA C110/A21.10 – American National Standard for Ductile-Iron and Gray-Iron Fittings, 3-in. through 48-in., for water and other liquids.
- D. ANSI/AWWA C111/A21.11 – American National Standards for Rubber-Gasket Joints for Ductile-Iron and Gray-Iron Pressure Pipe and Fittings.
- E. ANSI/AWWA C115/A21.15 – American National Standard for Flanged Ductile-Iron Pipe with Ductile-Iron or Gray-Iron Threaded Flanges
- F. ANSI/AWWA C150/A21.50 – American National Standard for the Thickness Design of Ductile-Iron Pipe.
- G. ANSI/AWWA C151/A21.51 – American National Standard for Ductile-Iron Pipe, Centrifugally Cast for Water and Other Liquids.
- H. ANSI/AWWA C153/A21.53 – American National Standard for Ductile-Iron Compact Fittings for Water Service.

I. AWWA C600 – Installation of Ductile Iron Water Mains and Their Appurtenances.

1.4 Quality Assurance:

- A. All piping, fittings, and appurtenances installed by the Contractor shall be new and unused and shall be suitable for the intended purposes.
- B. Each joint of pipe shall be plainly marked at the site of manufacturer to indicate the class, thickness, and/or strength.

1.5 Delivery, Storage and Handling:

- A. All ductile iron pipe and fittings are subject to inspection at delivery and other times as deemed necessary by the Engineer. Any pipe and/or fittings damaged during delivery shall be promptly removed from the job site.
- B. Ductile-iron pipe shall be stored off the ground supported by timbers, railings or concrete supports and shall be of sufficient size to avoid contact with the ground or adjacent piping. Supports shall have chocks to prevent movement. Stacking shall be low enough to provide a safe condition, especially in neighborhoods and accessible areas.
- C. Pipe and fittings shall be stored to prevent damage to the interior or exterior lining. The interior of all pipe and fittings shall be kept free of dirt and debris. Ductile iron pipe shall not be stacked higher than specified in Table 1 of AWWA C600.
- D. Pipe and fittings shall be loaded and unloaded by hoists or skids to avoid sudden impact to the material. In no case shall the pipe or fittings be dropped. Slings, hooks, or pipe tongs shall be padded to avoid damage to the exterior or interior linings.
- E. Gaskets for mechanical joint and push-on joint pipe and fittings shall be stored in a cool dry place out of direct sunlight. Contact with petroleum based substances is prohibited.

PART 2 - PRODUCTS

2.1 Approved Manufacturers:

- A. American Cast Iron Pipe Company
- B. U.S. Pipe
- C. Others as approved by the Engineer

2.2 Materials: Ductile iron pipe and fittings shall conform to the following:

A. Pipe and Fittings

1. In general, ductile iron pipe for underground work shall have push-on or mechanical joints; ductile iron pipe for exposed work shall have flanged joints. Where shown on the drawings, grooved-end pipe shall be used to allow removal of valves and fittings.
2. Ductile iron pipe with push-on or mechanical joints shall conform to ANSI/AWWA C150/A21.50 and ANSI/AWWA C151/A21.51, latest revision. Push-on or mechanical joints shall conform to the requirements of ANSI/AWWA C111/A21.11.
3. Pipe pressure classes and wall thicknesses shall be in accordance with bury depths and laying conditions as specified in C150/A21.50 and C151/A21.51. Minimum pressure classes for buried pipe shall be 350 psi for pipes ≤ 12 inches, 250 psi for pipes ≤ 24 inches, and 150 psi for pipe ≥ 30 inches in diameter.
4. Ductile iron pipe with flanged or grooved joints shall conform to the requirements of ANSI/AWWA C115/A21.15 (including appendix) and shall have a pressure rating of 350 psi for pipes ≤ 12 inches, and a pressure rating of 250 psi for pipes ≥ 14 inches. Flanges for threading onto ductile iron pipe shall conform to the requirements of ANSI/AWWA C115/A21.15.
5. Fittings for ductile iron pipe with push-on or mechanical joints shall conform to the requirements of ANSI/AWWA C110/A21.10 and shall have a pressure rating of 350 psi for sizes ≤ 24 inches, and a pressure rating of 250 psi for sizes ≥ 30 inches. Ductile iron fittings for ductile iron pipe with push-on or mechanical joints may be compact fittings conforming to ANSI/AWWA C153/A21.53. Joints shall be mechanical joints conforming to the requirements of ANSI/AWWA C111/A21.11.
6. Fittings for flanged ductile iron pipe shall conform to the requirements of ANSI/AWWA C110/A21.10 (including appendix) and shall have a pressure rating of 250 psi. Fitting flanges shall conform to the requirements of ANSI/AWWA C110/A21.10. Gaskets for flanged joints shall be full face of first quality red rubber, 1/8-inch thick.

B. Coatings and Linings:

1. Exposed piping shall have exterior rust inhibitive primer coating compatible with finished paint.
2. All ductile iron pipe and fittings for underground installation shall receive an exterior bituminous coating of 1-mil minimum thickness.

3. All ductile iron pipe and fittings shall have an interior cement-mortar lining with asphaltic seal coat in accordance with ANSI/AWWA C104/A21.4.
4. Where hydrogen sulfide is a potential problem, ductile iron pipe and fittings shall be lined with a 40-mil thickness coating of Protecto 401 amine cured ceramic epoxy or approved equal.
5. Where shown on the drawings or required by the City Engineer, ductile iron pipe and fittings situated in aggressive soils shall be polyethylene wrapped in accordance with ANSI/AWWA C105/A21.5. Wrappings shall be 8-mil low density or 4-mil high density, cross-laminated (HDCL) polyethylene film.

PART 3 - EXECUTION

3.1 Examination:

- A. The contractor shall examine the site, trench and surrounding conditions to assure proper installation of the pipe and associated fittings.
- B. The contractor shall examine pipe and fittings for any scratches or abrasions to the coating or linings, or other physical damage prior to its installation.
- C. Trenches shall be inspected for proper alignment and grade. Check trench bottom to assure proper clearance from other utilities, pipelines or existing structures.
- D. Any bedding required by the drawings or specifications shall be installed prior to pipe placement.

3.2 Installation:

- A. Pipe installation shall be according to this section of the specification and the manufacturer's instructions and/or referenced specifications.
- B. Every care shall be taken in the handling, cutting, and laying of pipe and fittings to avoid damaging the interior or exterior coating. Damaged or defective areas shall be repaired or replaced to the satisfaction of the Engineer.
- C. Any ductile iron fitting showing a crack, any fitting or pipe which has received a severe blow that may have caused an incipient fracture, even though no such fracture can be seen, shall be marked as rejected and removed at once from the job site. In any pipe showing a distinct crack and in which it is believed there is no incipient fracture beyond the limits of the visible crack, the cracked portion, if so approved, may be cut off by and at the expense of the Contractor before the pipe is laid so that the pipe used

may be perfectly sound. The cut shall be made in the sound barrel at a point at least 12 inches from the visible limits of the crack. Except as otherwise approved, all cutting shall be done with a machine having rolling wheel cutters or knives adapted to the purpose. All cut ends shall be beveled and shall be examined for possible cracks caused by cutting. Special care shall be taken to avoid excessive heat during cutting which might damage pipe lining.

- D. Each section of ductile iron pipe shall be placed in the prepared trench with the full length of the barrel resting upon the pipe bed and with the pipe bell over a bell hole excavated at the proper location to accommodate the bell. No temporary supports under the pipe such as bricks, rocks, etc., shall be permitted.
- E. Any pipe found defective shall be replaced. Cracked pipe may be cut as specified previously in this section if authorized by the Engineer.
- F. Pipeline shall be laid with bells in direction of laying, unless it is necessary to do otherwise to make connections to existing pipe. Where pipe is to be laid on a slope, the direction of laying shall be from downstream to upstream.
- G. All lumps, blisters, and excess coating shall be removed from the socket and plain ends of each pipe, and the outside of the plain end and the inside of the bell shall be wiped clean and dry and be free from dirt, sand, grit, or any foreign material before the pipe is laid. Foreign material shall be prevented from entering the pipe while it is being placed in the trench. During laying operations, no debris, tools, clothing, or other materials shall be placed in the pipe.
- H. As each length of pipe is placed in the trench, the joint shall be assembled and the pipe brought to correct line and grade as shown on the drawings.
- I. Assembly of ductile iron push-on joints and mechanical joints shall be in accordance with AWWA Specifications C600, Section 3.4. The contractor shall use particular care in cleaning the socket, plain end and gasket. Mechanical joint bolts shall be tightened to the proper torques shown in Table 4, AWWA Standard C600.
- J. Deflections of ductile iron pipe having mechanical joints, if authorized by the Engineer, shall not exceed the deflection limits shown in Table 6, AWWA Standard C600. All bolts and set screws shall be checked immediately before backfilling.
- K. Deflections for push-on joint pipe shall conform to Table 5 of AWWA C600.
- L. At times when pipe laying is not in progress, the open ends of pipe shall be closed by the use of pipe plugs or other methods approved by the Engineer to keep mud, water, and other debris out of the pipe.

- M. Pipe cutting for the insertion of valves and fittings shall follow the manufacturer's recommendations. No torch cutting shall be allowed. Interior and exterior coatings shall be repaired and touched-up per manufacturer's recommendations.
- N. Trenches shall be backfilled according to Section - Trenching, Backfill and Compaction.

END OF SECTION

SECTION - SANITARY SEWER SYSTEM

PART 1 - GENERAL

1.1 Section Includes:

- A. This section of specifications covers installation requirements of gravity sewer pipe and pressure sewer pipe. Testing requirements for gravity sewers, manholes, and force mains are also provided in this section.
- B. All materials used in the construction of sewers shall be new and unused when delivered to the job site and shall be suitable for installation and operation under the conditions for which they are to be used.

1.2 Related Sections:

- A. Section – Polyvinyl Chloride Gravity Sewer Pipe
- B. Section – Polyvinyl Chloride Pressure Sewer Pipe
- C. Section – Ductile Iron Pipe and Fittings
- D. Section – Precast Concrete Manholes
- E. Section – Trenching, Backfilling and Compaction
- F. Section – Slope Protection and Erosion Control

PART 2 – PRODUCTS (NOT USED)

PART 3 – INSTALLATION

3.1 Gravity Sewer Pipe Laying - General:

- A. Before sewer pipe is placed in position in the trench, the bottom and sides of the trench shall be carefully prepared and the necessary bracing and sheeting installed.
- B. Unless noted otherwise on the drawings, all gravity sewer lines shall be installed with a minimum thirty-six (36) inches of cover.
- C. A properly designed and operated laser beam device may be used to align and grade the pipe. Laser beam devices used shall be carefully calibrated at intervals not to exceed 30 calendar days.
- D. Air blowers must be used in conjunction with laser beam devices and must be sufficient to provide an air flow through the pipe of 4 to 6 mph.
- E. If approved by the Engineer, the batter board method may be used. A mason's line shall then be tightly stretched above ground level, parallel to and directly above the

axis of the pipe to be installed; this line to be supported at intervals not exceeding 50 feet. The exact line and grade for each section of pipe shall be determined by measuring down from this line to the invert of the pipe in place. Each pipe shall be accurately placed to the exact line and grade called for on the plans. The Contractor shall furnish all labor and materials necessary for erecting batter boards.

- F. Water shall not be allowed to run or stand in the trench while pipe laying is in progress or before the joints are completed or before the trench has been backfilled. The Contractor shall not open up at any time more trench than his available pumping facilities are able to dewater.
- G. Each piece of pipe and special fitting shall be carefully inspected before it is placed and no defective pipe shall be laid in the trench. Pipe laying shall proceed up-grade, starting at the lower end of the grade and with the bells uphill.
- H. After pipe laying has begun, it shall continue progressively up-grade. No section of pipe installation will be skipped without a written request for such procedures from the Contractor and approved by the Engineer.
- I. Bell holes shall be of sufficient size to allow ample room for properly making the pipe joints. Bell holes shall be cut not more than five joints ahead of pipe laying. The bottom of the trench and the crushed stone cushion between bell holes shall be carefully graded so that the pipe barrel will rest on a solid foundation for its entire length. Each joint shall be laid so that it will form a close concentric joint with adjoining pipe and so as to avoid sudden offsets and inequalities in the flow line.
- J. Backfilling of trenches shall be started immediately after the pipe is in place and the joints completed and inspected by the Developer's Engineer.
- K. A metallic tape and wire shall be installed in the same trench with all non-metallic pipe (PVC) in order that the pipe may be located with electronic metal detection equipment. Wire shall be T.W. 12-gauge solid copper conforming to specifications for annealed copper, ASTM B-3 and Underwriters Laboratories Thermoplastic Insulated Wire Standard No. 83, latest revision. Wire shall be Simplex BW3001, or equal. Pipe detector tape shall be two (2) inch wide minimum metalized tape. Tape shall be Griffolyn Company, Inc., Terratape 2" D., or equal. Wire and/or Tape shall be secured to pipe at intervals of 20 feet.
- L. Manholes shall be installed according to Section – Precast Concrete Manholes.

3.2 Laterals Installation:

- A. Wye shall be installed in sanitary sewer lines at all points shown on the plans or specified herein. If such branches are not to be used immediately, they shall be closed with gasketed plugs specifically designed for such purpose.
- B. If the work consists of the construction of a sewer that is to replace an existing sewer, all of the existing service lines shall be connected to the new line.
- C. Wyes shall be installed in sanitary sewers so as to properly serve each existing house and each vacant lot facing or abutting on the street or alley in which the sewer is being laid, and at such other locations as may be designated by the Engineer. The exact location of each connection shall be determined by the Engineer before backfilling.
- D. Should ductile pipe lining be scratched, chipped, or otherwise damaged during the tapping process, it shall be properly repaired or recoated by the Contractor.
- E. Laterals shall be bedded and backfilled according to Section – Trenching, Backfill, and Compaction.
- F. Where the depth of cut is over 8 feet or where the grade of a sanitary sewer is lower than necessary to drain abutting property, and when designated by the City Engineer, connecting risers shall be installed to serve each existing house and each vacant lot facing or abutting on the street in which the sewer is being laid.
- G. Connecting risers shall be either 4 or 6 inches in diameter installed from a wye connection to the elevation designated by the Engineer. Open ends of connecting risers shall be closed, as herein before specified for wye branches. Backfilling shall be carefully done around these risers.

3.3 Pressure Sewer Pipe Laying – General

- A. Before sewer pipe is placed in position in the trench, the bottom and sides of the trench shall be carefully prepared and the necessary bracing and sheeting installed.
- B. Unless noted otherwise on the drawings, all pressure sewers shall be installed with a minimum of thirty-six (36) inches of cover.
- C. Water shall not be allowed to run or stand in the trench while pipe laying is in progress or before the joints are completed or before the trench has been backfilled. The Contractor shall not open up at any time more trench than his available pumping facilities are able to dewater.
- D. Each piece of pipe and special fitting shall be carefully inspected before it is placed and no defective pipe shall be laid in the trench. No section of pipe installation will be

skipped without a written request for such procedures from the Contractor and approved by the Engineer.

- E. All pressure pipe 4 inches and over in diameter shall be provided with adequate thrust restraints. Thrust restraints, consisting of concrete thrust blocks and/or mechanical restraining rod attachment shall be furnished at all fittings, plugs, and all pipe bends as shown on the Standard Detail Drawing.
- F. Air release valves, Air/Vacuum release valves, and Combination air valves shall be installed at the locations shown on the drawings.
- G. A metallic tape and wire shall be installed in the same trench with all non-metallic pipe (PVC) in order that the pipe may be located with electronic metal detection equipment. The tape or wire shall be attached to the top of the pipe. Wire shall be T.W. 12-gauge solid copper conforming to specifications for annealed copper, ASTM B-3 and underwriters Laboratories Thermoplastic Insulated Wire Standard No. 83, latest revision. Wire shall be Simplex BW3001, or equal. Pipe detector tape shall be two (2) inches wide minimum metalized tape. Tape shall be Griffolyn Company, Inc., Terratape 2" D or equal. Wire and/or Tape shall be secured to pipe at intervals of 20 feet.

3.4 Pipe Protection:

- A. Sewer pipe which, when completed, will have less than three (3) feet of cover, shall be provided with concrete protection and shall be constructed of ductile iron pipe.
- B. Where foundation conditions are not satisfactory, as determined by the Engineer, sewer pipe shall be either laid on a concrete cradle, sand backfill, foundation material, and/or constructed of ductile iron pipe as shown on the plans or as directed by the Engineer.

3.5 Testing of Gravity Sewers and Manholes:

A. General:

1. The approval and acceptance of gravity sewer lines and manholes shall be based on final testing. The Contractor must provide a 72-hour notice prior to final testing to the City Engineer. A representative from the Engineer and/or Owner must be present to witness final testing procedures. Tests performed in the absence of the Engineer's and/or Owner's representatives shall be considered invalid and shall be repeated by the Contractor.
2. Final testing of gravity lines shall only be performed after all work adjacent to and over the pipeline has been completed. Trench backfilling, grading, roadway

sub-grade, concrete work, other utility installation, and any other superimposed loads shall be completed and in place prior to final testing.

3. Prior to any testing and final inspection, all gravity lines shall be cleaned of debris and flushed clean with water as necessary by the Contractor. Debris and flush water shall be contained at a lower manhole and removed from the line. Debris and flush water shall not be allowed to enter live existing sanitary sewers. Contractor shall be responsible for collection and proper disposal of debris and flush water.
4. All apparatus and equipment required for testing shall be furnished by the Contractor.
5. Contractor shall provide the City Engineer and Owner with copies of all field notes and documentation obtained during final testing.

B. Scope:

1. All gravity sewers shall be tested by one or more of the following methods as directed by the City Engineer:
 - a. Direct Visual Inspection by the Engineer
 - b. Exfiltration of water
 - c. Infiltration of water
 - d. Exfiltration of air under pressure (Low Pressure Air Testing)
 - e. Video Inspection.
2. In addition to the above testing requirements, all PVC gravity sewers shall pass mandrel testing to verify roundness and proper installation.
3. All manholes shall be vacuum tested.

C. Direct Visual Inspection by the Engineer

1. The Engineer and/or his Representative shall visually inspect all gravity sewer pipe installed to verify alignment and ensure the pipe is free from obstructions and debris. Each segment of sewer shall be "flushed" using sunlight and mirrors. When the full diameter of the pipe is visible between adjacent manholes, the segment of pipe is deemed properly aligned and free of sags and debris.

2. If segment of pipe fails visual inspection, the pipe shall be cleaned and/or replaced and re-tested by the Contractor.

D. Exfiltration of Water

1. The section of sewer to be tested shall be sealed by inserting inflatable rubber bags or plugs in the pipes or by other means approved by the Engineer. Water shall then be introduced into a manhole until the pipeline section is completely filled. The Contractor shall fill the pipe to the required test level prior to the time of exfiltration testing to permit normal absorption into the pipe walls if concrete or concrete lined ductile iron pipe is being tested. Throughout the test period of two (2) hours minimum, the water level in the upper manhole shall be maintained at least 18-inches above the crown of the upper end of the pipe or at least 18-inches above the groundwater table, whichever is greater. The length of pipe tested shall be limited such that the pressure on the centerline of the lower pipe end tested does not exceed six (6) feet water column.
2. Exfiltration of water shall not exceed 100-gallons per mile of sewer per inch of inside diameter per 24-hours in any section of the completed work. In no case shall the exfiltration of water exceed 2500 gallons per mile per 24 hours. All observed leaks shall be corrected by the Contractor even though exfiltration is within the allowable limits.
3. The City Engineer may direct the Contractor to test selected sections of the sewer in the following manner: after the selected sections of the sewer are laid in the trench and the joints completed but before any backfill is placed, the Contractor shall install suitable bulkheads or stoppers in each end of the sewer and fill the sewer with water. The sewer shall be filled through one length of sewer pipe installed vertically at a wye or at the end of the pipe being tested. Water shall be maintained in the line approximately to the top of the fill pipe until the Engineer can inspect the section of sewer being tested. Any leaks in the sewer system being tested shall be repaired by the Contractor. The total amount of sewer thus tested shall not exceed five percent (5%) of the total length of sewer constructed. Should the results of any of these tests indicate leakage, the City Engineer may direct the Contractor to change the methods of construction to reduce the leakage on the remaining part of the work.

E. Infiltration of Water:

1. The section of sewer to be tested shall have been trench backfilled and the test conducted by inducing infiltration conditions by jetting the sewer trench for a sufficient length of time to insure that the water level in the trench is a minimum of eighteen(18) inches over the crown of the sewer pipe. The test must be

performed before existing sewers are connected and before sewage load is allowed in the sewers.

2. Infiltration of ground water or other leakage into the sewer (including manholes) shall not exceed 100 gallons per mile of sewer per inch of inside diameter of the sewer per 24 hours in any section of the completed work, and in no case shall it exceed 2500 gallons per mile per 24 hours.
3. Infiltration flow shall be measured in wet weather by a 90-degree "V-notch" weir with free discharge or other means acceptable to the Engineer. These weirs shall be furnished, installed, and removed by the Contractor.
4. Any leaks into the sewer that can be located shall be repaired or corrected by the Contractor as directed by the Engineer regardless of infiltration test results.

F. Exfiltration of Air Under Pressure (Low Pressure Air Testing):

1. Scope

- a. This recommended practice defines the proper procedures for acceptance testing of installed gravity sewer pipe, using low-pressure air, to provide assurance that the pipe, as installed, is free from significant leaks. Included are requirements for equipment accuracy, safety precautions, line preparation, test method, and minimum holding times. This recommended practice does not cover the testing of manholes. All new pipe shall be low-pressure air tested to insure the integrity of the pipe and joints
- b. Only lines tested after backfilling to final grade will be considered for acceptability. However, this test may also be used by the installer as a presumptive test to determine the condition of the line prior to backfilling. At no time will more than four manhole to manhole reaches of pipe be installed before air testing is performed.
- c. Low Pressure Air Testing shall be conducted in accordance with ASTM C828, C924, F1417 and UBPPA UNI-B-6.

2. Responsibilities:

- a. Responsibility of the Contractor: Unless otherwise specified, the Contractor shall furnish all the necessary equipment and be responsible for conducting all low-pressure air tests. In addition, the Contractor is responsible for any necessary repair work on sections that do not pass the test. No sealant shall be used in any newly installed sewer without the

prior approval of the City Engineer. Proper structural repair work will be required by the Engineer or the Owner.

- b. Responsibility of the Engineer: The Engineer and/or a qualified inspector shall witness all low-pressure air tests and verify the accuracy and acceptability of the equipment utilized. The engineer should inform the Contractor regarding acceptable methods of repair in the event one or more sections fail to pass the low-pressure air test. The Engineer should also report to the Owner regarding the acceptability of the Contractor's work.
- c. Responsibility of the Owner: The Owner shall make a final decision as to the acceptability of the Contractor's work based upon the Engineer's recommendation.
- d. Regulatory Agencies: Regulatory Agencies in the State, Federal, and/or local level may be legally entitled to witness any air testing and/or review the results. The Owner or his Engineer should check to see that the low-pressure air test specified for his installation is at least as stringent as those which may be required by such regulatory bodies.

3. Equipment

- a. Air testing shall be performed by the Contractor using equipment manufactured by Cherne Industries, Inc., or approved equal. Equipment used shall meet the following minimum requirements.
- b. Pneumatic plugs shall resist internal testing pressures without requiring external bracing or blocking. However, the Contractor should internally restrain or externally brace the plugs to the manhole wall as an added safety precaution throughout the test. No one shall be allowed in the manhole adjoining a line being tested so long as pressure is maintained in the line.
- c. Pneumatic plugs shall have a sealing length equal to or greater than the diameter of the pipe to be inspected.
- d. To facilitate test verification by inspecting Engineer, all air used shall pass through a single, aboveground control panel.
- e. The aboveground air control equipment shall include a shut-off valve, pressure regulating valve, pressure relief valve, input pressure gauge, and a continuous monitoring pressure gauge having a pressure range from 0 to at least 10 psi.

- f. Three individual hoses shall be used for the following connections:
 - 1. from control panel to pneumatic plugs for inflation.
 - 2. from control panel to sealed line for introducing the low pressure air.
 - 3. from sealed line to control panel for continually monitoring the air pressure rise in the sealed line.

4. Line Preparation

- a. During sewer construction, all service laterals, stubs, and fittings into the sewer test section shall be properly capped or plugged so as not to allow for air loss that could cause an erroneous air test result.
- b. A wetted interior pipe surface is desirable and will produce more consistent test results. Where practical, clean the line with cleaning balls, manufactured by Cherne Industries Incorporated or equal, prior to testing, to wet the pipe surface and eliminate debris.

5. Test Procedure

- a. All pneumatic plugs shall be seal tested before being used in the actual test installation. One length of pipe shall be laid on the ground and sealed at both ends with the pneumatic plugs to be checked. Air shall be introduced into the plugs to the manufacturer's recommended inflation pressure. The sealed pipe shall be pressurized to 9 PSIG. The plugs shall hold against this pressure without bracing and without movement of the plugs out of the pipe.
- b. After a manhole to manhole reach of the pipe has been backfilled and cleaned, and the pneumatic plugs are checked by the above procedure, the plugs shall be placed in the line at each manhole and inflated to manufacturer's recommended inflation pressure. When plugs are being placed, the pipe adjacent to the manhole shall be visually inspected to detect any evidence of shear in the pipe due to differential settlement between the pipe and the manhole.
- c. Low pressure air shall be slowly introduced into this sealed line until the internal air pressure reaches 4.0 PSIG greater than the average back pressure of any groundwater above the pipe, but not greater than 9.0 PSIG. If groundwater is present, refer to the following Paragraph 6. Determination of Groundwater Elevation and Air Pressure Adjustment, of Section 3.5.F in this Specification.

- d. After a constant pressure of 4.0 PSIG (greater than the average groundwater back pressure) is reached, the air supply shall be throttled to maintain the internal pressure for at least 2 minutes.
- e. When the pressure has stabilized at 4.0 PSIG, the air hose from the control panel to air supply shall be shut off or disconnected. The continuous monitoring pressure gauge shall then be observed while the pressure is decreased to no less than 3.5 PSIG. At a reading of 3.5 PSIG, or any convenient observed pressure reading between 3.5 PSIG and 4.0 PSIG, timing for the test may begin.
- f. The portion of line being tested shall be termed "Acceptable" if the allocated line pressure decreases less than one PSI in the time shown for the given diameters and lengths in the following table. Consult the City Engineer for test lengths greater than those provided.

MINIMUM SPECIFIED TIME REQUIRED FOR A 1.0 PSIG PRESSURE DROP

Pipe Dia (inches)	Specification time for Length Shown (min:sec)							
	100 FT	150 FT	200 FT	250 FT	300 FT	350 FT	400 FT	450 FT
8	7:34	7:34	7:34	7:34	7:36	8:52	10:08	11:24
10	9:26	9:26	9:26	9:53	11:52	13:51	15:49	17:48
12	11:20	11:20	11:24	14:15	17:05	19:56	22:47	25:38
15	14:10	14:10	17:48	22:15	26:42	31:09	35:36	40:04
18	17:00	19:13	25:38	32:03	38:27	44:52	51:16	57:41
21	19:50	26:10	34:54	43:37	52:21	61:00	69:48	78:31
24	22:47	34:11	45:34	56:58	68:22	79:46	91:10	102:33

- g. If there has been no leakage (0 PSIG drop) after one hour of testing, the test section shall be accepted and the test complete. If there is any pressure drop, the complete test shall be run to determine whether or not the test section is acceptable.
- h. If the pressure drops 1.0 PSIG before the appropriate time shown in the table has elapsed, the air loss rate shall be considered excessive and the section of pipe has failed the test.
- i. If the section fails to meet these requirements, the Contractor shall determine the source(s) of leakage, and he shall repair or replace all defective materials and/or workmanship to the satisfaction of the Engineer. The extent and type of repair which may be allowed, as well as results, shall be subject to the approval of the Engineer. The completed pipe installation shall then be retested and required to meet the requirements of this test.

6. Determination of Groundwater Elevation and Air Pressure Adjustment

- a. In areas where ground water is known to exist, the Contractor shall install a ½-inch diameter capped pipe nipple, approximately 10 inches long, through the manhole wall directly on top of one of the sewer lines entering the manhole. A permanent, watertight seal shall be provided around the pipe nipple at the manhole wall. This shall be done at the time the sewer line is installed.
- b. Immediately prior to the performance of the air testing, the ground water shall be determined by removing the pipe cap, blowing air through the pipe nipple into the ground so as to clear it, and then connecting a clear plastic tube to the nipple. The plastic tube shall be held vertically and a measurement of the height in feet of water over the invert of the pipe shall be taken after the water has stopped rising in this plastic tube. The height in feet shall be divided by 2.31 to establish the pounds of pressure that will be added to all readings. (For example, if the height of water is 11-1/2 feet, then the added pressure will be 5 psig. This will increase the 3.5 psig (mentioned in item e above) to 8.5 psig, and the 2.5 psig to 7.5 psig.)
- c. The allowable pressure drop of 1.0 PSIG and the timing in the previous table are not affected and shall remain the same.
- d. In no case shall the starting test pressure exceed 9.0 PSIG. If the average vertical height of groundwater above the pipe invert is more than 12.7 feet, the section so submerged may be tested using 9.0 PSIG as the starting test pressure.
- e. After determining the air pressure adjustment, the test shall resume according to Item 5 - Test Procedures stated above.
- f. After determining groundwater height, each pipe nipple shall be recapped and sealed to prevent future infiltration.

G. Video Inspection:

1. Prior to final acceptance, the sewer installation shall be video inspected by City forces. Said inspection shall verify locations of service connections, and locations of possible defects/infiltration. Any defects found shall be repaired by the Contractor in a manner acceptable to the City Engineer.

H. Mandrel Testing:

1. Mandrel test (deflection test) shall be performed by the Contractor in order to verify the roundness and proper installation of the PVC gravity sewer line.
2. Equipment systems used to perform mandrel tests shall be specifically designed for the pipe material being tested. Mandrels that do not specifically state the size and type of piping for which it is applicable shall not be allowed.
3. Deflection Test:
 - a. The deflection test shall consist of testing PVC gravity sewer pipe for proper installation by the method outlined (see ASTM D3034). The testing shall be accomplished prior to final acceptance, but at least 30 days after the pipe has been backfilled completely to permit stabilization of the soil-pipe envelope.
 - b. After the pipeline has been installed and backfill materials have been compacted to their required standard densities, the mandrel shall be pulled by hand through the pipeline with a suitable rope or cable that is connected to an eyebolt at one end of the gauge. A similar rope or cable shall be attached to the eyebolt at the opposite end of the mandrel and tension shall be applied to it. This will insure that the mandrel maintains its correct position during testing and also to remove the mandrel if it should become lodged in an excessively deflected pipeline. Winching or other mechanical means of forcing the mandrel through the pipeline is unacceptable. Pipeline deflection testing shall have a deflection not exceeding 5% of the base inside pipe diameter as established by ASTM Standards D3034 and F679.
 - c. Permanent record of all testing with locations where excessive pipeline deflections occur shall be kept by the Contractor and forwarded to the Engineer after completion of testing on each line.
 - d. The Contractor shall immediately correct or replace all sections of pipe which deflect more than 5%.
 - e. All material and labor required for testing and/or replacement of pipelines shall be furnished by the Contractor.
 - f. Pipelines requiring correction and/or replacement shall be retested after an additional 30 day backfill stabilization period.

I. Manhole Vacuum Testing:

1. Vacuum tests shall be conducted on newly constructed manholes. Preliminary manhole testing shall take place following construction after all connections are made, and before backfilling. Test results derived from this test will allow time for necessary repairs to be completed before further construction proceeds and hinders such repairs. Final tests must be performed after the manhole has been backfilled.
2. Equipment:
 - a. Manhole vacuum tester assembly and vacuum pumps shall be manufactured by Cherne Industries, Inc., or approved equal.
 - b. Pneumatic plugs shall be manufactured by Cherne Industries, Inc. or approved equal. These plugs shall have a sealing length equal to or greater than the diameter of the connecting pipe to be sealed.
3. Procedures:
 - a. Plug all manhole entrances and exits other than the manhole top access using suitably sized pneumatic or mechanical pipeline plugs and follow all manufacturer's recommendations and warnings for proper and safe installation of such plugs. Plugs should be inserted a minimum of 6" beyond manhole wall. Make sure such plugs are properly rated for the pressures required for the test. The standard test of 10" Hg. (mercury) is equivalent to approximately 5 PSIG (0.3 bar) backpressure. Unless such plugs are mechanically restrained, it is recommended that the plugs are used with a minimum of two times (2x) safety factor or a minimum of 10 PSIG (0.7 bar) backpressure usage rating.

CAUTION: BRACE INVERTS IF LINES ENTERING THE MANHOLE HAVE NOT BEEN BACKFILLED TO PREVENT PIPE FROM BEING DISLODGED AND PULLED INTO THE MANHOLE.

- b. Any other openings such as lifting holes shall be sealed with an approved non-shrink grout.
- c. Install the vacuum tester head assembly at the top of the manhole. Adjust the cross brace to insure that the inflatable sealing element inflates and seals against the straight top section of the manhole or the ring assembly, if possible. (If using a "plate" style manhole tester, position the plate on the manhole ring assembly).

- d. Attach the vacuum pump assembly to the proper connection on the test head assembly. Make sure the vacuum inlet/outlet valve is in the closed position.
- e. Following safety precautions and manufacturer's instructions, inflate sealing element to the recommended maximum inflation pressure. CAUTION: DO NOT OVER INFLATE.
- f. Start the vacuum pump and allow pre-set RPM to stabilize.
- g. Open the inlet/outlet ball valve and evacuate the manhole to 10" Hg. (approximately negative 5 PSIG, 0.3 bar).

CAUTION: DO NOT PRESSURIZE MANHOLE! THIS MAY RESULT IN MANHOLE DAMAGE AND/OR RESULT IN MANHOLE TEST HEAD DISLODGING FROM MANHOLE INLET!

- h. Close vacuum inlet/outlet ball valve and monitor vacuum for specified test period (see table). If vacuum does not drop in excess of 1" Hg., manhole is considered acceptable and the manhole passes the test. If manhole fails the test, Contractor shall complete necessary repairs and repeat test procedures until satisfactory results are obtained.

Minimum Test Times for Various Manhole Diameters

DEPTH – FEET	MANHOLE DIAMETER – INCHES			
	48	60	72	96
8	20 sec	26 sec	33 sec	38
10	25 sec	33 sec	41 sec	48
12	30 sec	39 sec	49 sec	57
14	35 sec	46 sec	57 sec	67
16	40 sec	52 sec	67 sec	76
18	45 sec	59 sec	73 sec	86
20	50 sec	65 sec	81 sec	95
+ 2 ft incr.	+5 sec	+6.5 sec	+8.0 sec	+9.5 sec

(The values listed above are based upon ASTM Specification C1244 "Standard Test Method for Concrete Sewer Manholes by the Negative Air Pressure (Vacuum) Test".)

- 4. Repeat the above test procedure after backfilling manhole for final acceptance test.
- 5. All manholes that fail the test or have visible leaks, even if they pass the test, shall be repaired or replaced by the Contractor until the manholes pass the

test, to the complete satisfaction of the City Engineer. Manholes that have any visible leaks will not be accepted.

3.6 Testing of Force Mains

A. General:

1. This Section shall cover testing of sanitary sewer force mains for pipe sizes of four inches (4") in diameter and larger for flushing, hydrostatic pressure and leakage. Testing shall be accomplished so that all portions of the system are flushed and tested according to these requirements. These requirements are for both Ductile Iron and Polyvinyl Chloride (PVC) Pipe. The Contractor shall furnish test equipment, labor, materials, and water for all tests. All test equipment shall be approved by, and meet the requirements of, the City Engineer for the City of Tuscaloosa.
2. The Contractor must provide a 24-hour notice prior to final testing to the City Engineer.
3. All apparatus and equipment required for testing shall be furnished by the Contractor.
4. Contractor shall provide City Engineer and Owner with copies of all field notes, documentation, and recording charts obtained during final testing.

B. Flushing:

1. Prior to beginning the pressure test, the line shall be flushed to remove all dirt and debris trapped in the line.
2. All valves shall be partially opened and closed during the flushing process.
3. All lines shall be flushed with a velocity of at least two and one-half feet per second (2.5 fps).
4. The Contractor is responsible for the proper disposal of all flushed water.

C. Testing:

1. Before applying the specified test pressure, all entrained air shall be expelled completely from the section pipe under test. Air shall be bled from the highest elevations in the line. If permanent air vents are not located at the high points in the test section, corporation cocks meeting the approval of the City Engineer shall be installed at such points so that air may be expelled as the line is filled

with water. At the conclusion of the pressure test, the corporation cocks shall be removed and tightly plugged, or left in place at the direction of the City Engineer.

2. All exposed pipe, fittings, and joints shall be examined carefully during the test. Any damaged or defective pipe or fittings or any visible or audible leaks, discovered during or following the pressure test shall be repaired or replaced, regardless of the pressure test results, with sound material by the Contractor. The test shall be repeated until the results are satisfactory to the City Engineer.
3. The Test Pressure shall be the Working Pressure of the line as defined below, but in no case less than one hundred pounds per square inch (100 psi).
 - a. The Working Pressure shall be defined as one and on-half (1.5) times the shut-off head of the system pump or as defined by the City Engineer.
4. Leakage shall be defined as the quantity of water that must be supplied into the section of pipe being tested to maintain pressure within ± 5 psi of the specified test pressure after the pipe has been filled with water and the air has been expelled. Leakage **shall not** be measured by a drop in pressure in a test section over a period of time.
5. Upon complete removal of all air entrapped in the line, the line shall again be filled with water and pressurized to the required test pressure. The line shall be allowed to stabilize at the test pressure for a minimum of four (4) hours before conducting the pressure test.
6. Duration of the test shall be two (2) hours for uncovered pipe and six (6) hours for covered pipe. The test pressure shall not vary by more than plus or minus five pounds per square inch (± 5 psi) during the duration of the test. The specified test pressure shall be applied by means of a pump connected to the pipe.
7. A recording pressure gauge approved by the City Engineer shall be installed and pressure fluctuations recorded for the duration of the test. For each test, copies of all test charts and records shall be furnished to the City Engineer.

D. Acceptance:

1. Acceptance shall be determined on the basis of allowable leakage. If any test of pipe laid discloses leakage greater than that specified, the failure shall be located and repaired using approved materials and acceptable construction practices until the leakage is within specified allowance. All visible leaks are to be repaired

regardless of the amount of leakage.

2. Maximum allowable leakage in a test period shall not exceed:

$$L = \frac{SD(P^{1/2})}{133,200}$$

where: L = allowable leakage in gallons per hour
S = length of pipe tested in feet
D = nominal diameter of pipe in inches
P = average test pressure during the leakage test in pounds per square inch, gauge (psig)

3.7 Clean-Up and Grassing:

- A. After the ditch lines have been sufficiently compacted, all excess material shall be removed from the job site by the Contractor.
- B. Any trees or undergrowth shall also be removed by the Contractor.
- C. All disturbed areas shall have topsoil replaced equal to that before construction began. If necessary, the Contractor shall provide topsoil.

END OF SECTION

SECTION - ASPHALT PAVING AND PATCHING

PART 1 - GENERAL

1.01 Section Includes:

- A. This Section of Specifications covers the material and installation requirements for asphalt patching over excavated trenches in roads, parking lots and driveways.
- B. This Section of Specifications covers material and installation requirements for an asphalt overlay across the entire paving width if required in the proposal.

1.02 Related Sections:

- A. Section - Trenching, Backfill and Compaction

1.03 References:

- A. State of Alabama Department of Transportation Standard Specifications for Highway Construction, Latest Edition.

1.04 Quality Assurance:

- A. The work of asphalt paving shall be accomplished by skilled workmen experienced in the laying of asphalt.
- B. All equipment shall be of a design and size to successfully accomplish the work.

1.05 Project Conditions:

- A. The Contractor shall comply with all environmental laws and requirements pertaining to the work.
- B. The Contractor shall take adequate measures to control dust in the work area.
- C. The Contractor shall thoroughly inspect the backfilled trench and assure himself that proper laying conditions exist.
- D. The Contractor shall provide and maintain adequate and safe traffic control.

PART 2 - PRODUCTS

2.01 Materials:

A. Prime Coat:

1. Prime Coat shall be emulsified asphalt, Type AE-P, or cutback asphalt Types MC 250, RC 70, and RC 250 as defined in Section 401 and Section 804 of the Alabama Department of Transportation Standard Specifications.
2. Prime Coat shall be applied at the rate of 0.22 to 0.25 gallons per square yard over the entire area to be treated with asphalt.

B. Tack Coat:

1. Tack coat shall be as per City of Tuscaloosa Standards provided by the OCE.

C. Asphalt Patch:

1. Asphalt paving used in patching shall be as per City of Tuscaloosa Standards provided by the OCE.

D. Asphalt Overlay:

1. Asphalt used as the overlay of an existing street shall be Bituminous Concrete Wearing Surface, Mix "A" and all materials used shall conform to Article 429.02 of the State of Alabama Department of Transportation Specifications. Bituminous Concrete Wearing Surface shall be ALDOT Item 429A-243.
2. The Contractor shall refer to the Standard Detail Drawings for the quantity of material to be applied per square yard.

E. Traffic striping and control markings shall conform to Sections 701 and 703 of the State of Alabama Department of Transportation Standard Specifications for Highway Construction. All striping, delineations, markers, etc., damaged or destroyed during the construction shall be replaced by the Contractor at his expense.

F. Before overlaying the street, the Contractor shall raise or lower all valve boxes, manholes and other embedded items, including items that have previously been paved over. No extra payment will be made for these adjustments.

2.02 Equipment:

- A. Equipment used in asphalt patching and/or asphalt paving shall meet the requirements of Article 410.03a of the State of Alabama Department of Transportation Specifications.

- B. Equipment used in the application of Prime Coat and Tack Coat shall comply with Article 401.03a of the above mentioned Specifications.

2.03 Temperature and Weather Requirements:

A. Prime and Tack Coat:

1. Bituminous materials shall not be placed on wet surfaces or when the air temperature is below 60-degrees F.
2. Bituminous materials shall not be placed when the temperature is expected to fall below freezing during the night regardless of the daytime temperature.

B. Asphalt Patching and Overlay:

1. The asphalt mixture shall be placed only upon an approved underlying course that is dry.
2. Asphalt layers of 200-pounds per square yard or less shall not be placed when the air temperature is below 40-degrees F. The air temperature must be 40-degrees F. and rising before the spreading operation is started and the spreading operation shall be stopped when the air temperature is 45-degrees F. and falling.
3. For asphalt layers over 200-pounds per square yard, the above temperatures shall be lowered by 5-degrees.

PART 3 - EXECUTION

3.01 Execution:

A. Prime and Tack Coat:

1. All loose material, dust and foreign material shall be removed from the surface. Cleaning shall be continued until all caked and loose dirt and dust are removed.

B. Asphalt Patching:

1. All designated areas to be patched shall be trimmed to neat vertical lines to the depth of patch specified. All loose material shall be removed. A prime or tack coat shall be applied as specified above. The asphalt shall be placed and compacted to a degree that further consolidation of the patch is not anticipated.

2. Any patched areas that do consolidate shall be replaced or additional material brought in to bring the patch up to the surrounding level.
3. All asphalt or concrete streets, parking areas and drives shall be patched the same day they are cut. Temporary or cold patch material may be used until the permanent patch can be placed.

3.02 Application:

A. Prime and Tack Coat:

1. Prime and Tack Coat shall be uniformly applied at the rate specified by pressurized distributors.
2. All areas to be treated with an asphalt surface treatment shall be primed and/or tacked.

B. Asphalt Patch and Overlay:

1. Asphalt Patching may be applied with spreaders, by hand, or with motor graders. All areas inaccessible to large equipment shall be spread by hand.
2. Asphalt patching shall be thoroughly compacted through the use of steel wheeled rollers and/or rubber tired rollers. Density shall be as specified in the State of Alabama Department of Transportation Standard Specifications.
3. Asphalt Overlay shall be applied with spreaders; except in inaccessible areas spreading may be done by hand, uniformly placing the desired rate per square yard over the underlying surface.
4. As soon as the mixture has set sufficiently to prevent cracking, the mixture shall be rolled with steel wheel and rubber-tired rollers to compact the mixture. Density shall be as specified in the State of Alabama Department of Transportation Standard Specifications.

3.03 Testing and Surface Requirements:

- A. Testing of the asphalt mixtures shall be performed at the discretion of the Engineer. Testing shall include but not be limited to density tests and extraction tests.
- B. The finished surface of asphalt overlays shall be checked with string, level and/or straightedge. The finished surface shall not vary more than 1/4" from the required sections as measured at right angles to the roadway centerline. The finished surface shall not vary more than 3/8" in any 25-foot section measured parallel to the centerline

at the following locations: one foot inside of the edges of pavement, at the centerline and at other points as designated.

3.04 Maintenance:

- A. The contractor shall maintain and protect the newly laid asphalt until final acceptance of the work.

END OF SECTION

**12.0 CITY OF TUSCALOOSA STANDARD DETAILS FOR SEWER
CONSTRUCTION**

- SD-005 Typical Trench Detail Gravity Pipe - Unimproved Areas**
- SD-010 Typical Trench Detail Gravity Pipe - Improved Areas**
- SD-015 Typical Trench Detail Gravity Pipe - Asphalt Paving**
- SD-020 Typical Trench Detail Gravity Pipe - Concrete Paving**
- SD-025 Typical Trench Detail Pressure Pipe - Unimproved Areas**
- SD-030 Typical Trench Detail Pressure Pipe - Improved Areas**
- SD-035 Typical Trench Detail Pressure Pipe - Cut Pavement & Drive X-ing**
- SD-040 Typical Trench Detail Pressure Pipe - Concrete Drive Replacement**
- SD-045 Bedding and Backfill Requirements around Manholes in Traffic Areas**
- SD-050 Bedding and Backfill Requirements around Manholes in Non-Traffic Areas**
- SD-055 Standard Precast Manhole**
- SD-056 Doghouse Manhole Base**
- SD-057 Manhole in 100-YR Flood Zone and/or Fill Area**
- SD-060 Flexible Manhole Sleeve and Manhole Joint Details**
- SD-065 Manhole Frame and Cover and Adjusting Ring Details**
- SD-070 Watertight Frame and Cover Details**
- SD-075 Manhole Step Details**
- SD-080 Memphis Tee and Anchor Bolt Detail**
- SD-085 Air/Vacuum Release Valve Manhole Detail**
- SD-090 Service Lateral Connection Shallow Sewer**
- SD-095 Service Lateral Connection Deep Sewer**
- SD-096 Service Lateral Connection to Existing Sewer**
- SD-100 Elevated Sanitary Sewer**
- SD-105 Typical Wet Ditch/Creek Crossing and Bore Details**
- SD-110 Thrust Restraint - Concrete Blocking**
- SD-120 Low Pressure - Service Lateral**
- SD-125 Low Pressure - Junction Flushing Connection**
- SD-130 Low Pressure - Intermediate Flushing Connection (A)**
- SD-131 Low Pressure - Intermediate Flushing Connection (B)**
- SD-135 Low Pressure - Terminal Flushing Connection**
- SD-150 Erosion Control - Silt Fence Types "A" & "B"**
- SD-155 Erosion Control - Drop Inlet Sediment Filters**
- SD-160 Erosion Control - Surface Roughening and Stone Pad**
- SD-165 Erosion Control - Sediment Control Log**
- SD-170 Erosion Control - Curb Inlet Protection (Sandbags)**
- SD-175 Erosion Control - Silt Fence & Baled Hay Ditch Check**
- SD-180 Erosion Control - Riprap Ditch Check / Slope Protection**